THE
CEMETERIES OF ABYDOS

PART I.

THE MIXED CEMETERY AND UMM EL-GA'AB.

BY

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KATHLEEN HADDON

WITH TWENTY-ONE PLATES

THIRTY-THIRD MEMOIR OF

THE EGYPT EXPLORATION FUND

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THE EGYPT EXPLORATION FUND

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PREFACE.

The mixed cemetery of Abydos is one of the most interesting burial-grounds explored in that locality, for we find there tombs of various epochs, and we follow the successive changes which some of them have undergone. It is much to be regretted that it is so different now from its primitive appearance. Several explorers have already worked there, and it has also been the prey of many plunderers. It is certain that if we could see it as Mariette did many years ago, when he cleared the temple of Seti I. and when he made his extensive excavations in the necropolis, we might have in many cases more conclusive evidence as to the date and the nature of the monuments. For instance, Mariette saw the pyramids over the tombs of the XIth Dynasty, and none of them existed when we began work there, so that we miss entirely the characteristic features of the tombs of that epoch.

This volume consists in its greater part of the complete and elaborate description of the cemetery made by Mr. Peet, to which I have nothing to add, though I followed closely the excavation. From the first I arrived at conclusions very different from those which are now the base of the dating of funerary monuments, especially in reference to pottery, from what is generally called the historical sequence.

I am not going to discuss here this system, which has been expounded and advocated with considerable perspicacity by its author[1]; I should only like to bring forward mine. I do not think that these strict rules which have been set down for pottery, and which are supposed to be binding for the whole country, are in accordance with anthropology and with what we learn from the industries and customs of the present day. I do not know of any country, especially of such a large extent as Egypt, where the modifications in the fictile art would have marched at a pace regulated by chronology, and concomitant with political events such as the changes of dynasty.

I believe that for pottery, the only true classification is not chronological; it is geographical, or rather local. Each region has to be studied apart, and what takes place on a certain point of the country may have been completely ignored in a distant locality which has preserved

[1] W. M. Flinders Petrie, *Diospolis Parva*: "The Sequence of Prehistoric Remains."

its tradition and taste. Archaeology has certainly done a great deal to enlarge our horizons and to correct erroneous views based merely on a written text, but we must not fall on the other side. We cannot pretend to reconstitute history with potsherds only; and even in the dating of monuments like tombs, where pottery is a very important element, it is not enough. The inferences derived from it have to be supported by other objects, by the general features which are characteristic of a monument.

For three years after the excavations of the mixed cemetery tomb-digging has been going on at Abydos, so that with all that was found before there is now a considerable material from which we may derive a true picture of what the funerary art has been in that place from the earliest times. This picture I should like to be drawn without any attempt to fit the results into the chronological classes limited by certain dynasties. The date would have to be derived from the circumstances of the place, whether they clash or not with what has been observed in other places.

Local classification of pottery or other archaeological objects, and a closer observation of what may be seen at the present day, not only among primitive people, but among civilized nations, such seem to me the principles to be applied in the excavation and study of a site like the mixed cemetery of Abydos.

Natural history, the study of the animals and plants remains of which have been preserved, is also of material help for the knowledge of the remote past. Therefore I cannot but welcome Miss Kathleen Haddon's contribution on the cemetery of dogs.

EDOUARD NAVILLE.

GENEVA,
November 1913.

THE CEMETERIES OF ABYDOS.

PART I.

CHAPTER I.

THE MIXED CEMETERY (E): GENERAL CHARACTER.

By Edouard Naville.

The Cemetery E, which I call the Mixed Cemetery, lies not very far from the cultivated land, at a distance of about 300 metres north of the temple of Rameses II., and above the valley which seems to be the road to Umm el Ga'ab. It was excavated in the winter 1909–10, and it is particularly interesting as showing various types of tombs which belonged to the two different elements of which the Egyptian population consisted: the old native stock, which is called by the Egyptians the Anu, and the Pharaonic Egyptians, whom I believe to belong also to a Hamitic tribe, of African origin, which developed the civilization properly called Egyptian.[1]

The typical kinds of graves discovered are described in this way by Mr. Peet (see p. 12 ff.):—

1. Shallow graves of the now familiar type, first discovered at Naqada and Diospolis Parva, containing *tightly* contracted bodies and vases of red polished ware, sometimes with a black top, "decorated vases," wavy-handled vases, implements of flint, slate palettes, and other objects of the types usually found along with these.

2. Rather deep rectangular shafts, usually with a chamber opening off the bottom, but occasionally without, containing bodies *loosely* (never tightly) contracted, or extended, or supine.

These two types are most characteristic, the shallow grave being clearly what I should call the native or Old African tomb, and the second the Egyptian or Pharaonic. Usually the first is called prehistoric or predynastic, and the second dynastic. We shall see how far these names correspond exactly to the dates which they imply.

Generally speaking, it seems to me hardly possible to assign a fixed date to the first-named burials, nor to argue as to the age from the appearance of the pottery. Every place in Egypt has a story for itself and has to be studied independently of what is found in other parts of the country. In this respect, we have to look at what is going on in our times. Take the chief cities of Egypt: every one has its own taste, its fashions. The pottery of Esneh is not that of Keneh. These traditions go back to a great antiquity, and even in our time of railways and highly developed civilization they disappear but slowly. The Bedouin in his tent has some remains of remote ages; the Bishari woman in the desert cooks her food in stone vases which are remarkably like those of predynastic tombs.

One does not see what circumstances might bring a change in the customs of the primitive

[1] "L'Origine africaine de la civilisation égyptienne," *Rev. Arch.*, xxii. (1913), p. 42.

Egyptians, and especially how these changes could be connected with political events like the overthrow of the ruling dynasty and its replacement by a new one. Whoever has seen in one of the villages of Egypt a fellah woman making with her hands, and without any wheel, the vessel in which she will prepare her lentil soup, cannot but be convinced that political events will have no influence whatever on the work of this woman, who works according to her taste or her needs, and for whom there is no law whatever as to the form which she will give to her vessel. Local taste, local fashion are the only laws which she obeys, and any sequence or development of forms, arranged in chronological order, is quite out of the question as regards common (I mean chiefly hand-made) pottery.

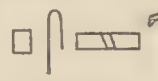
As for wheel-made pots, better made and more artistic than the coarse work of women, it seems also very doubtful whether we may argue from the form as to the date, and attempt to arrange them in chronological order. Let us go to a village market, to the man who sells *gullas*, the clay pots for water. Supposing the dealer has two dozen before him on the ground; there are perhaps not two quite alike, made according to a definite pattern. Evidently the potter has been led by his fancy. Who knows whether the next day it will not be quite different, especially if he has to go to another village where some of his purchasers like a certain shape? Nobody would think of establishing a sequence among the vessels which the dealer offers to purchasers. One may therefore ask the question, Is it more justified when those vessels are found in the earth, in tombs where there are no other touchstones for the date of the burial?

As I said, each place has to be studied by itself; what took place at Naqada is not of necessity to be found identical at Memphis or even at Abydos. Admitting that a monument is found dated in a certain locality, will a monument of the same kind, discovered at a certain distance in another locality, necessarily belong to the same time? This question is raised by a fact connected with this cemetery. Only one really Egyptian tomb was found intact (E 21). It was a rectangular shaft, a little over five metres in depth. At the bottom, on the south side, opened a chamber, the entrance of which was carefully bricked up. When we removed this wall we found the chamber untouched, except by the white ants which had entirely destroyed the wooden coffin. It did not seem to have been ornamented, nor do the ivory or stone figures give us any inscription from which we might date the tomb. If we consider its form and reason from analogy with other places, it reminds us at once of the tombs of the XIth Dynasty, of which a good number was discovered at Deir el Bahari in the XIth Dynasty temple, and in the court between the two temples. Judging therefore from the general appearance of the tomb, we should say it is of the time of the XIth Dynasty. At Deir el Bahari there is no doubt about it: the tomb consists of a shaft, a side chamber, sometimes two opposite each other, and these chambers are always closed by a brick wall at the entrance.

At Abydos it is different. The first scientific explorer, Mariette, describing the tombs of the XIth Dynasty which he found on the same spot, the "nécropole du centre," says that they all have the form of a small pyramid built on a rectangular basement. On the east is a small door giving access to a chamber which is both the burial and the outer chamber. The whole is built in raw bricks. This form of tomb is common under the XIIth and the XIIIth Dynasties, and Mariette says distinctly that there never is any shaft or any subterranean chambers. These pyramids, of which he saw a great number, have entirely disappeared; we did not see a single one.

Shaft and chamber, so Mariette says, belong to the VIth Dynasty, and generally there is a small mastaba over it. It is quite possible that in this case also it may have disappeared. Thus,

for the same dynasty, the XIth, the plan and form of the tomb are quite different at Deir el Bahari and at Abydos.

One object also seems characteristic of the VIth Dynasty. It is a table of offerings, or rather a slab on which are arranged models of implements and instruments used for the ceremony of the Opening of the Mouth. The most important of these implements, and generally that in the middle, is the , called in the Pyramid of Unas , and in the tomb of Petamenap, a priest of the XXVIth Dynasty, or  *peseshkaf* or *peshenkaf*. That these implements were only models is proved by the fact that these vases are solid, with only a slight hollow at the mouth. From one slab of this kind which we found the *peshenkaf* was absent, having either not been put in the tomb or been stolen at the time of the burial.

There is a slab absolutely similar in the British Museum, No. 5526. Dr. Budge, who described it, says that it was found at Abydos in the early years of the nineteenth century, and was purchased in 1836. Since it comes from the same place, and probably from a tomb of the same kind, it cannot be adduced as an indication of the date. Another one has been discovered by Prof. Flinders Petrie at Denderah in the tomb of Adu, and is certainly of the VIth Dynasty. I saw also a very fine one coming from a tomb of the Old Empire discovered by Mr. Reisner. These objects were found in large mastabas, characteristic tombs of the Old Empire, and dated. The ceremony of the Opening of the Mouth was one of the important parts of the funeral ritual; we have complete descriptions of it at various epochs, for instance in the tomb of King Seti I. Therefore the fact of having discovered in a tomb models of instruments used for that ceremony is no clue as to the date of that tomb.

Nevertheless, I believe that in this case the evidence seems to be strongly in favour of the earlier date, and I have no hesitation in saying that this tomb is of the VIth Dynasty. If we consult the first explorer of Abydos, Mariette, whose work has not been valued as it deserved, considering that he saw a great deal which does not exist at the present day, we see that he found more than a dozen tablets of the VIth Dynasty with royal names, most frequently that of Pepy I., and also those of his two successors. Prof. Flinders Petrie found a few more, and even some older ones bearing the names of kings of the Vth Dynasty, and, older still, that invaluable object, the ivory statuette of Khufu.

Prof. Petrie even gives a plan of a temple which he describes as built by Pepy. In front of the door were stelae of Pepy II., one of which was found in place. All the upper part has perished; but the inscription, which is now fragmentary, and the form of the stone, seem rather to show that it is the door-jamb of the tomb of a chief justice called Zau, . The other jamb, which is nearly intact, was discovered by Mariette in a wall of a well of the village, and it is now in the Museum of Cairo. According to the French explorer, this monument is one of the numerous tombs which were allowed to be built in the temple of Osiris since the VIth Dynasty.

From this we must conclude that under the VIth Dynasty the temple of Osiris had already been founded at Abydos, and that the inhabitants of the place had already adopted the religious ideas, and especially those on burial, which form a certain contrast with those of the Thinite epoch, and which are supposed to have originated at Memphis.

Having now a monument which we may fairly consider as dated, it may help us in dating the other tombs of the cemetery. As I said before, this (E 21) is the only shaft tomb which was found intact; and from the day it was found, shortly after the beginning of the exploration of the cemetery, until more than three weeks afterwards, not a single one was found undisturbed. Every

one had been opened, and re-occupied by contracted or half-contracted or even extended bodies. This fact seemed to me of extreme importance; my attention was specially directed to it, and I made a special notice of it in my note-book. It shows that these tombs, which I shall call Pharaonic, were invaded and appropriated by a population which had preserved the traditions and the ideas of the prehistoric times and who were the old native stock.

Some of these shaft tombs cut through small surface burials, and in certain cases the bones which were cut away from the skeleton by the digging have been collected and heaped together in the untouched part of the tomb. This has been closed by a few bricks placed flush with the wall of the shaft and filling up the hole made in the wall by the surface tomb. For instance, the Tomb No. 122 is a large rectangular shaft. The chamber is very well cut, with an open door. Inside was found a contracted body in a very thick wooden coffin. Now this is distinctly a usurped burial. A deep rectangular shaft with a well-cut chamber is for a Pharaonic burial of the VIth Dynasty. If it were occupied by its original owner, the door of the chamber would be bricked up and closed; it would not be open, and would not contain a contracted body which, in spite of the thick wooden coffin, is much too small for the chamber. The tomb, which is cut through, is small and oval. It was for a contracted body, of which the legs only have been left; the upper part of the body has disappeared by the digging of the shaft. Thus there was a contracted body above and one below in the chamber. The bodies in the two places belonged to the same people, who were not what I call the Pharaonic Egyptians.

Of these two burials, which is the earlier? In my opinion there is no doubt that it is the shaft and chamber of the VIth Dynasty over which the oval tomb was dug later on. When this oval tomb was made it was necessary to excavate to a small depth the wall of the shaft. Later still, the same people, whom I call the Africans, wished to usurp the Pharaonic tomb. They emptied the shaft, broke open the door of the chamber, took away the Egyptian things, and put in the chamber the contracted woman in her wooden coffin.

Those who cut through the small tomb were not the original diggers of the shaft; they were the usurpers. The nature of the soil and the way in which the work was executed show it very clearly. These shafts are cut in the rock, but when the work was begun the rock was not bare; it was covered by a certain depth of sand and gravel which it was necessary to scrape away in order to reach the stone floor. This done, they had to trace a rectangle marking the dimensions of the tomb. Inside this rectangle the rock had to be excavated and carried away, but outside of the line it was necessary to have a certain width of open space to prevent the sand and gravel from falling into the excavation. It is not possible to make a vertical cutting in sand and gravel. Therefore, if they had come across a surface tomb, through which ran the line of the shaft, so that half of it were outside and half inside, the whole tomb would infallibly have been destroyed in scraping off the ground.

It is difficult to imagine how the small oval tomb would have been preserved in the cutting of the large shaft. Besides, would the Pharaonic Egyptians have respected the burial of the poor Africans? This seems hardly conceivable. It is not in conformity with the prevailing ideas, when we see, for instance, that the kings did not even respect the work of their predecessors.

The case is quite different if we admit that the cutting of the small tomb was done by the usurpers, these usurpers being the same kind of people as the owners of the small burial. This is shown by the body found in the chamber—a contracted body in a strong wooden box, without Egyptian objects of any kind. It is therefore quite natural that the Africans who cut through the tomb of one of their race did something to

preserve it. It was not difficult, when they emptied the shaft, to put a few bricks, which closed the burial of which they had destroyed one half, and to pile up, if necessary, the bones in the other half. In the case of No. 125 they did not do it; they carried away the head and the upper part of the body, and left only the legs. In order to show that they still considered these scanty remains as the complete body of the deceased, they left with these legs two pots and a slate.

In other cases the usurpers were more respectful for the deceased. In No. 28 the coffin of the surface tomb was of reed mat, the feet were left in position at the bottom, but the upper bones and vases, which had been cut off by the shaft, were piled up in a mass above them. The gap or hole made in the wall of No. 27 had been bricked up and plastered. In the chamber was a body, supine, in a wooden coffin. On the top of the shaft was a course of common pots, lengthwise to the shaft. I think these pots were to accompany the body which was in the chamber, but they were left above as a mark that the body was below. It must have been so with other tombs, for we never found in a chamber, with a body contracted or half-contracted, any of these common pottery vases; they were left above.

This usurpation explains what Mr. Peet states, that there was not a single case in which a grave of Type I. was found completely or partially intact lying over a shaft. When the shaft was usurped and emptied, it naturally swept away the oval tomb which perhaps was dug over it.

Take also No. 23, a rectangular well-cut pit, with the holes in the sides for the feet of the men going down; towards the south, a well-cut chamber. The tomb is as Egyptian as possible. In the chamber was a crouched child in a wooden coffin; no Egyptian objects of any kind. Clearly this rock-cut tomb was not made for the child, which is a secondary burial.

Sometimes an oval tomb has been found intact at a distance from an Egyptian shaft of not more than a foot. It would have been absolutely impossible to dig the large shaft without disturbing the surface burial. This was the case near the intact Egyptian tomb (E 21). There was an undisturbed oval tomb quite close to it, so near that it seems doubtful whether, in case of usurpation, of emptying the big shaft, it might have remained unharmed; but since the shaft was left with its original filling up and was not usurped, its small neighbour did not suffer in the least.

Before the cemetery was covered up again, looking at it from the hill above, it gave one the impression that every vacant place between the shafts had been made use of. Wherever there was a sufficient interval either an oval tomb or that of a child had been inserted, and it was impossible not to be convinced that the oldest part of it was the shafts.

We have thus clearly what I should call a Pharaonic cemetery usurped and re-used by the kind of people who buried their dead crouched, and who had those tombs which have often been described. These people are those who lived already in the neolithic age, who were prehistoric or predynastic, but whose civilization lasted much later, even into historic times. We see them here after the VIth Dynasty, but it may be much later, since we do not know when the usurpation took place. It is hardly possible to fix a date, because in this cemetery there is a complete confusion, a mixture of all epochs. Mariette, in his description of what he calls "la nécropole du centre," the part where our cemetery lies, says that the tombs are chiefly of the VIth Dynasty, among which are mixed some of the XIth on the sides and below. Mariette found also tombs of the XVIIIth and following dynasties. We found much later constructions, of Ptolemaic times, even Roman, "which spared neither shaft tomb nor surface grave" (Peet), so that it seems to be a hopeless task to try to fix definite chronological points

among this crowd of tombs. We have to start from this fact, which I consider as well established, that the contracted or semi-contracted bodies found in the chambers of shafts are not those of the original owners; they are secondary burials. All the shaft tombs with chambers, which I call Pharaonic, had been usurped except one, which had preserved its Pharaonic character.

It is quite possible that there were already African tombs before the Pharaonic shafts, but it seems probable that the usurpation of the VIth Dynasty shafts must have taken place at a time when the Pharaonic population was less numerous and important, either between the VIth and the Xth Dynasties, or at the time of the Hyksos, after the XIIIth, the remains of which are numerous and important, chiefly at Kom es Sultân.

Contracted burial is that of the populations in a very rudimentary state of civilization. They are common at the neolithic age, and they are even found at the quaternary period. They are met with in a considerable number of prehistoric excavations in many parts of Europe. However, they are not the exclusive way of burying; at the same place and in the same grave may be found extended, contracted, and semi-contracted bodies.[1] It is the same in the cemetery at Abydos. It is therefore an error to draw chronological conclusions from the simultaneous presence of these three modes of burial, just as it would be in the neolithic deposits of Europe, such as the grottoes of Mentone and a great number of other places.

Various explanations have been given of this posture. The most natural seems to me to consider it as the sitting posture, sitting not on a chair, but on one's heels, as do the people in the desert. This is the position of rest of the man who has been out hunting and who eats his meals in his hut, or that of the woman who cooks her food or does any other household work. If pots and vases, and perhaps his weapons, are given to the deceased in his tomb, this will be a reduced image of the hut when he is resting after his work. One can fancy why they preferred the crouching position to the extended body. This is the position of the dead man who can no more move, who is absolutely inactive; while a man can rise from the sitting posture, he can move whenever he likes, it is the posture of the living. This position of rest and these victuals or weapons put near the deceased are a very simple way of showing that the deceased continued in the other world a life very like that which he had been leading. Why give him victuals, if he did not live? Why put his weapons near him if he could not go on hunting? This is a most elementary and at the same time a most telling way of expressing their idea as to future life: it goes on as it has been on the earth. This is the reason why Herodotus says: "The Nasamonians bury their dead in a sitting posture, taking care at the moment when the man expires to place him sitting, and not to let him die lying down on his back" (iv. 150).

Not only is this custom of crouched bodies most common in prehistoric times, but it is still kept on at the present day. In some Bantu tribes it still can be seen, and a missionary who was an eye-witness of the ceremony among the Bantu, and who has given a picture of a crouched grave, describes it in the following way: "When the breathing becomes shorter, those who watch over him begin to *bend his limbs*. This is a very old custom, and it is deemed very important that the operation should begin before death, lest the rigidity of the body should prevent it from being accomplished. When the bending of the limbs has been too long delayed, it has sometimes been necessary to heat them . . . The intention of this rite is probably to put the dying man in the sitting position which a Thonga

[1] DÉCHELETTE, *Manuel d'Archéologie préhistorique*, i., p. 472. Prof. SCHIAPARELLI told me he had also found the three kinds of burial in the same tomb at Gebelein.

generally adopts when he is in his hut, as the *grave is but a hut in the earth*, and he is meant to continue his life in it exactly as before. All the other burial rites confirm this explanation."[1]

One can imagine that it was not always possible to bend the limbs sufficiently to have a tightly contracted posture; death may have occurred too soon, or nobody was present to accomplish this rite on the dying person. This is, I suppose, the reason why some of the bodies were half bent, and some remained extended; they did not like to break the bones. Besides, even in the Thonga tribe, this rite is chiefly used for the leaders, for those who have a numerous family or attendance. Probably for poor people it is more or less neglected, and I believe it must have been the same in the cemetery at Abydos. For instance, in Nos. 15 and 16, which were one tomb, we found an extended man buried in a reed mat. Across him was a second extended body, and a third, also extended, with a black-top vase of the beaker form on his legs and a pair of leather shoes near his feet. These three men evidently did not belong to what we should call the upper class.

In the north of Egypt, for instance in the recent excavations of Abu Roash, bodies belonging to the same epoch have been found both crouched and extended. It is possible also that the space available for the burial may have dictated the position which was to be given to the deceased. It seems to me an error to consider the difference in position as corresponding to different chronological dates. We must not think that in this question of burial the ancients were bound by definite and inflexible rules. Who would have enacted them? Besides, if they broke them there was no penal sanction, no inconvenience whatever for him who had violated them. The form of burial resulted from the belief as to future life, and from the religious or magical ideas which had reigned among them for generations. It is certain that, on the whole, extended burial is later than contracted, and the time during which the usurpers made use of the Egyptian cemetery may have been more or less long, but it is quite possible that their dead were laid in the two positions, especially since some of them are only half, or even less than half, contracted.

When Prof. Flinders Petrie first discovered at Naqada the contracted burials, with the peculiar pottery accompanying them, he gave them the name of the New Race, and came to the conclusion that "this New Race possessed an entirely different culture from that of the Egyptians, and had no apparent connection with them."[2] Since then, so many cemeteries have been found all along the river in Egypt and in Nubia, that it is hardly possible to consider these people as immigrants or as invaders, and Prof. Petrie now usually styles them prehistoric or predynastic people.

This name, prehistoric or predynastic, cannot be called quite correct. If we compare Egypt with other nations, it is quite evident that this race is that of the most primitive inhabitants of the Nile valley; they are the true natives, the aborigines who must be called autochthonous, not in the sense which the Greeks gave to this word, for to them it meant born of the earth, but meaning that they are the first dwellers in the valley, and that we know no other ones before. They are the first representatives of the Egyptian population, they are the soil in which Egyptian civilization has grown.

I have already pointed out that we know their name, the Anu, , the Hamitic population which occupied the north-eastern part of Africa, and which gave its name to Egypt, often called , the Two Lands of An. There are various branches of Anu—the Anu Mentu in the Sinaitic Peninsula, the Anu Setit in Nubia, and the Anu

[1] Junod, *The Life of a South African Tribe*, i., p. 133.

[2] *Nagada*, p. 60.

Tehennu in the Western Desert and on the coast of the Mediterranean. These Anu are the men buried crouched or half-extended, and who have reached the degree of civilization which we know from the so-called prehistoric cemeteries.

It is obvious that these aborigines did not attain to what I call the Pharaonic civilization by themselves; there was a mixture with an external element. I cannot repeat here what I have expounded elsewhere, that this foreign element, this conquest, for it was one, did not come from Asia; it came from the south. It must have been an African tribe which migrated from the south, and which was superior to the native element because it knew the use of metal; it had metal weapons, and this metal was only copper. It is very likely that this copper was native copper which they worked with stone hammers, or perhaps copper ore which they got by means of their very rudimentary smelting furnaces.

These African invaders do not seem to have brought with them a ready-made civilization; they were agriculturists, they had domestic animals, and they made use of the papyrus which they imported into the Lower Valley. But the real culture, the complete development of civilization, took place in Egypt itself. The writing especially, which we find already in the tombs at Umm el Ga'ab, is a distinctly Egyptian invention; one cannot trace among the numerous hieroglyphic signs a single one which may be attributed to Asia; it is certainly autochthonous.

The first step in the Pharaonic or dynastic civilization we find chiefly at Abydos and in many other places of Middle and Upper Egypt. Lately, the discoveries made at Saqqarah, and by Prof. Flinders Petrie at Tarkhan, have shown that it extended over Lower Egypt, and we may now say that the dynastic or Pharaonic culture of the Thinite period of the first three dynasties had reached the whole of Egypt, at least as far as the beginning of the Delta, for we do not know whether at that remote period the Delta was completely formed, or whether cultivation and the action of water have swept away those early remains.

At the end of the Thinite period there was a new step, and this step seems to have originated with Memphis. With the IVth Dynasty we see the building of the Pyramids, the magnificent tombs with pictures and sculptures, the beauty of which has not been surpassed, and also the first adoption of mummification, which reveals a change in the ideas about the other world. We do not yet know the cause of this forward bound, which appears rather sudden. Was it also due to a foreign invasion? Was Lower Egypt conquered at that time by invaders coming from Asia, as Dr. Elliott Smith maintains? The question is still very doubtful. Nevertheless, it is certain that these conquerors did not import anything from abroad; they merely contrived to develop still more what had already been produced, to prolong the lines which had been traced before their arrival. This Memphite culture certainly arose in Lower Egypt, and it went up the river, but even under the VIth Dynasty it had not reached at Abydos the degree of perfection which is revealed by the tombs at Ghizeh and at Saqqarah.

Thus, at the beginning of the Egyptian history we find two distinct elements, both born in Africa and belonging to the same race—the old native stock, the neolithic population, which was certainly prehistoric in the sense that it occupied Egypt before the historic times and the foundation of the monarchy, and a conquering tribe coming from the south, which mixed itself with the natives. The mixture produced the civilization which received a new impulse at the time of the IVth Dynasty. These are the two elements which we find in the cemetery at Abydos: the old native stock, and the civilized, or what I should call the Pharaonic Egyptians.

The interest of a cemetery like this is that it shows the simultaneous existence of the two elements which had not mixed together. And

this seems necessary, and I should say unavoidable, where there are in presence a native population and a tribe of conquerors, since the native population must be far more numerous than the invaders. Let us consider what has taken place in England. The mixture of the Old Saxons and the Norman conquerors is now complete, but it was far from being so five or six hundred years ago.

An argument which has sometimes been used in favour of the prehistoric date of the oval tombs is that they contain no properly Egyptian objects. This seems quite natural. These objects correspond to ideas about burial and future life which were not those of the primitive people; therefore there is no reason why they should have put them in their tombs. Occasionally they may occur, for instance in No. 101, also a usurped tomb. It consists, as Mr. Peet describes it, "of a rectangular shaft, 220 × 100 cm., and 540 cm. in depth. In this lay the body, supine, outstretched, with head to the north, in a plain wooden coffin." In front of the face were three vases of diorite, alabaster and limestone, and on the coffin a bronze mirror. These objects belong to different epochs. The bronze mirror is clearly Egyptian; the usurpers kept it for their burial, and probably carried away the other objects they found in the chamber. Similar discoveries have been made in other tombs.

In this tomb also they imitated the Egyptian mode. The body was outstretched. In the transition from one degree of civilization to the other, one must always admit that imitation played an important part. Seeing the more advanced, who were probably their rulers, bury their dead in a certain fashion, the less advanced felt tempted to do what the others did, and they may, as in this case, have given to their dead some of the Egyptian objects they had found in the tomb which they appropriated. We see at the present day, even in civilized countries, the same tendency carried into effect. The two elements, the old native and the Egyptian, continued parallel to each other for a long time. It is certain that the Egyptian element prevailed at last; the mixture took place, the old element was gradually swamped or assimilated by the new and more civilized, but by degrees, and it did not proceed at the same pace all along the valley. In my opinion it is a grave error to suppose that it put an end abruptly to what had preceded. We may suppose that the Anu may have gone on living near the Egyptians, just as the Bedouins of the present day live apart and keep their old customs at a small distance from European civilization. In parts of the country like Nubia, which never was assimilated like the lower part of the valley, some of the Anu burials may be found very late; and it seems probable that the Anu who are mentioned as taking part in the Festival of Bubastis kept also their worship, if they had one, and their funerary rites, which were part of their national character. In those remote times what gave a nation its characteristic feature, what discriminated it from its neighbours, was in the first place its religion.

The same diversity as to dates may be found in the pottery, which, to my mind, has been classified according to rules far too strict. The present state of things, what takes place in our time and under our eyes, has been too much neglected, and even kept entirely out of sight. This fact is well established by what we see at present: hand-made pottery, sometimes very rough and very rudimentary, may exist with wheel-made work having something even artistic. The rude and rudimentary work is not necessarily older than the other; hand-made pottery has not been superseded by the wheel-made product. It still exists; it is the work of women. Besides, vases have to be distinguished by the use which was to be made of them. Judging from the way they are made, we can affirm that those varnished vases, such as are represented on Pl. V. and called black-topped vases, were for those early people the substitute for glass, and

were chiefly used for liquids. In the plate, the one represented on the right side of the bottle is clearly the beaker or "tumbler" of those early people, as we see one in the hand of Mentuhotep, who raises it to his mouth, in a fragment from Deir el Bahari. It is difficult to argue anything from the forms, considering that several epochs are mixed in this cemetery, and also that a great many of the tombs are usurped; therefore vases may have been displaced, and not be contemporary with the burials where they were deposited.

In the question of forms, I believe a chronological series is entirely out of place. The fashion of the locality, the fancy of the potter or of the purchasers, the uses for which the vases were made, the clay found at that particular place, all these were the elements which ruled the forms, and not an influence coming from above and which, at a given moment, would be felt over the country from Assuan to the Delta. It has been said lately that it was absurd to say that a history of Egyptian pottery could not be written as well as one of the Greek pottery. I have no doubt that the history of Egyptian pottery can be written if we adopt the same principles as for Greek. Nobody would think of saying, concerning Greek pottery, that what is found at Athens is equally true for Sparta or Corinth. The history of Greek pottery is an assemblage of the history of fictile art in every one of the principal cities of the country. If we turn to Egypt, certainly, on the whole, the pottery is much inferior to that of Greece. The finest vase found at Thebes or anywhere in Egypt cannot compare with the work of Euphronios or Douris. Then we may notice the complete difference in the conception of art. For an Egyptian it was not necessary that a vase should be beautiful, provided it was useful and answered the purpose for which it was made.

Besides, the pottery of Egypt has a much more uniform character than that of Greece, owing to the uniform, I may even say monotonous, nature of the country. In Egypt, a man living at Thebes had before him a nature very similar to that which was seen by the man of Memphis; his conditions of life were identical, they were ruled by the same natural phenomena; there is no such variety as in Greece. So that on the whole there are certain features in the pottery which apply to the whole country. Nevertheless, there are distinct shades, an unmistakable diversity in the products of various localities; and to suppose that at certain dates certain changes took place throughout the whole valley, and that definite forms indicate a given dynasty wherever they occur, seems to me to go against the well-established facts of anthropology.

Pottery is one of the industries in which tradition is most steadily maintained, and where the local taste, the local fashion, derived perhaps from peculiar circumstances such as the kind of clay found on the spot, is the ruling element. Therefore, if the history of the Egyptian pottery is to be written, it cannot be done unless, as in Greece, each locality of importance has its history and each local style has been distinguished, as in sculpture. This seems to me the principle on which pottery has to be studied. I have no doubt that if this principle is followed, we shall find that chronological dates are very different according to the places where the pottery has been discovered. In a locality like Thebes, a large city, the capital of the kingdom, changes may have been more rapid than in some remote region, more or less out of the way, which had no religious or political importance, and where the inhabitants would have preserved with a kind of jealousy the tradition of centuries. The chronology of Memphis will not be that of Edfu. Each place will have its own sequence, if there is any, for in many cases its extent will be so small that it will hardly be recognized; but it will not be a general rule for the entire country, a kind of industrial or artistic ordinance to which the dwellers of the whole valley have to submit.

Summing up the results which are derived from the excavations of the Cemetery E, we may say that it is a mixed burial-place, where the two elements of which the population of Egypt consisted may be distinctly traced—the old occupants of the soil (the Anu) and the Egyptians or Pharaonic stock. It may be that some of the small African tombs are prehistoric or predynastic, but we can see clearly that the Egyptian, the Pharaonic cemetery, which goes back as far as the Old Empire to the VIth and perhaps also to the IVth Dynasty, was invaded and re-occupied by the Old Africans. One Egyptian tomb only was found intact. All the other ones contained contracted or half-contracted bodies, which were not those of the deceased for whom deep pits with side chambers had been cut in the rock. Later on came burials of the New Empire, and even Roman structures, so that in this place are collected tombs of several thousands of years, nearly the whole length of Egyptian history.

A question which arises actually is this: At what epoch did the occupation of the Egyptian tombs by the Anu take place? Here we can express only a conjecture, for we have no historical clue whatever pointing to any date. It may also have been gradual, and not have taken place at a given moment. Nevertheless, we can say that it must have been at a time when the Egyptian population was not very powerful or very numerous, for they would not have allowed their tombs to be thus ransacked and re-occupied by people whose worship was not the same as theirs. Abydos never was a city having a political importance; it was a religious city, the abode of the god Osiris. There are two periods when the worship of Osiris could not have been flourishing. One was the time of the Dynasties VIII. to X., when Egypt was divided between various princes, the most powerful of whom seem to have been those of Heracleopolis. The other is the time of the dominion of the Hyksos. Though it is doubtful whether this dominion extended as far as Abydos, it is probable that the political or national life was concentrated farther south at Thebes, and Abydos may have been neglected. It may have been on other occasions. As I said, we are here in the domain of conjecture. One thing is certain: the great number of African cemeteries found on the verge of the desert in the neighbourhood of Abydos, and farther south towards Thebes, shows that in that region the Old African population was very numerous, and had preserved its customs and its old mode of life.

CHAPTER II.

THE MIXED CEMETERY (E): DESCRIPTION.

By T. Eric Peet.

The present chapter is confined to a statement of the facts concerning the E cemetery, as observed by me and recorded in the card-catalogue. Practically the whole of the drawing in the plates and a portion of the recording in the text are the work of Mr. James A. Dixon.

Cemetery E lies on the south side of the broad and shallow groove which forms a natural approach to the Royal Tombs from the side of the cultivation. It is covered in parts with a considerable accumulation of drift sand, and large sand-hills have been amassed at various points by the ancient plunderers of the great vaulted tombs. The cemetery is at a distance of about 300 metres from the cultivation, the intervening space being occupied by tombs of various types and dates. The area excavated is about 80 metres square, but there is every reason to believe that the extent of the cemetery is greater than this. Pl. I., fig. 8 gives an idea of the general appearance of the cemetery.

The graves found may be divided into five distinct types :—

I. Shallow graves of the now familiar type first discovered at Naqada and Diospolis Parva, containing *tightly* contracted bodies and vases of red-polished ware, sometimes with a black top, "decorated" vases, wavy-handled vases, implements of flint, slate palettes, and other objects of the types usually found along with these.

II. Rather deep rectangular shafts, usually with a chamber opening off the bottom, but occasionally without, containing bodies *loosely* (never tightly) contracted, or extended and supine.

III. Burials of extended supine bodies in the sand in trays made of the midribs of the palm-leaf.

IV. Shallow sand burials of various kinds definitely distinguishable from Types I. and III.

V. Large vaulted chambers of brick, containing mummified bodies often in heavy rough-hewn coffins of limestone.

We have now to describe the several types in greater detail.

Type I.

Description of tombs.

The graves of this type present no features not already known to us from the cemeteries of Naqada, Diospolis Parva and El 'Amrah. They are all shallow, but penetrate through the surface sand into the stratum of soft sandstone which underlies it. They may be divided into three classes :—

1. Simple circular graves.
2. *a.* Rectangular or oval graves, usually rather larger than the last.
   b. Rectangular or oval graves, with a step or ledge left along one side in the cutting. On this the rougher vases were laid, the finer vases and smaller objects lying on the true floor of the grave with the body. The ledge was generally on the west side, rarely on the east, and only once at the north end.

3. A development of the last. As the number of the offerings increased the ledge became so wide as to occupy almost the whole grave, leaving very little room for the body. To meet this difficulty the bottom of the grave was enlarged by undercutting the soft sandstone of the side opposite to the ledge. A sort of shallow cave was thus formed in which the body could be laid. A few of these undercut graves were so rounded at the corners that they should be called oval rather than rectangular. In no case were there graves as much undercut as some of those found by MacIver at El 'Amrah, where the cavity could almost be described as a chamber, and was even occasionally walled up.

The orientation of these graves was invariable. They lay with the long axis parallel to the direction of the Nile at this point of its course. For purposes of description this may be referred to as local north and south, though the actual compass direction is as nearly as possible N.N.W.–S.S.E. The bodies almost all lay on the left side, and the head was usually towards the south, as at El 'Amrah and Naqada, though in a few cases it lay towards the north. Each body was tightly contracted, the hands being, except in rare cases, in front of the face, and the legs being doubled at the knees and bent upwards as far as they would go. Pl. I., fig. 4 shows the typical position, while Pl. I., fig. 3 shows the loosest contraction observed in these tombs. Here the legs are doubled up, but are not drawn up much beyond a position at right-angles with the body. In all other cases the contraction was much tighter, and contrasted strongly with that used in the tombs of Type II., where the thighs were never drawn up so as to make an angle of less than a right angle with the spine, and the hands were rarely up to the face (Pl. I., fig. 6).

There was one possible case of the cutting up of the body before burial. This was E 120, where the skeleton lay in two separate halves, each of which was complete and intact in itself. The upper part, including the head, arms, and the greater part of the spine, lay in the usual position with head to the south in the west part of the grave. The lower part, including the last six vertebrae, the pelvis and the legs, lay in the east half of the grave in the position in which they would be in a man squatting on his heels and at the same time bending the upper part of his body forward. This will be made clear by a reference to Pl. I., fig. 7.

The body was in many cases, especially in the simpler and smaller graves, wrapped up in a skin before burial. This was generally covered by a mat. The mats were of two types. One kind was made by weaving together small fine rushes (compare MacIver's illustrations from El 'Amrah[1]), and the other consisted of the mid-ribs of the palm-leaf beaten to a fibrous pulp, laid side by side and fastened with cross-pieces of coarse string. The mat occasionally covered the body alone, and was folded round it: in other cases it was merely spread over the whole deposit, body and vases alike. When the mat was too large for the grave its ends were rolled up. In the more elaborate graves mats were unusual.

None of the graves yielded any signs of roofing or of superstructure.

The pottery.

The objects found in the graves are all of well-established types, and cannot be said to add much to our knowledge of this class of tomb. The pottery was rather monotonous, a few forms recurring time after time. It was of five types, red-polished, black-topped, unpolished buff-ware with designs in red paint, wavy-handled, and unpolished unornamented ware. These types are all well known to us from the cemeteries of

[1] *El Amrah and Abydos*, Pl. xi., figs. 5 and 6.

Naqada, Diospolis Parva, Mahasna, El 'Amrah &c. Under the heading unpolished unornamented ware are included the two classes generally known as Late Ware and Rough Ware.[1] White-incised black ware and cross-line ware were both entirely absent from our cemetery.

The forms found fitted in for the most part to the type-series already established. All the variants or new forms are collected on Pl. V. The following is the complete list of forms, classified according to the type-series of Naqada, Diospolis Parva, El 'Amrah and El Mahasna :—

1. Black-topped ware (B).

B 1 *d*	22 *a*	38 *c*
2 *b*	22 *b*	47
6 (tall form)	25 *e*	53 *a*
11 *a*	25 *f*	53 *b*
11 *e*	25 *g*	58 *c*
11 *f*	27 *d*	74 *a*
18 *c*	27 *g*	74 *b*
19 *a*	29 *d*	74 *c*
19 *b*	35 *a*	75 *b*
21 *b*	36	79 *a*
21 *c*	38 *a*	94 *b*

2. Polished red ware (P).

P 1 *a*	36 *c*	43
1 *b*	38	45 *b*
14 (tall form)	40 *b*	74
22	40 *c*	81 *b*
23 *a*	40 *d*	93 *b*
23 *b*	40 *e*	93 *c*
34 *a* (longer form)	41 *c*	98 *b* (broad form)

3. Decorated ware (D).

D 3	31 *b*	35 *b*
8 *c*	32	37
17 *a*	35 *a*	68

Most of the specimens are drawn on Pl. V.

4. Wavy-handled ware (W).

There were a few examples of W 42, but W 43 and slight variations of it were the usual forms. None of the shapes verge on the cylindrical except the painted examples from E 383 (Pl. V., top row).

5. Rough ware (R).

R 1 *c*	33	57 *c*	69 *b*
3 *a*	34 *a*	57 *e*	74
7 *d*	34 *b*	65 *a*	75
23 *b*	34 *c*	65 *b*	76
24	36	65 *c*	81
26	37 *c*	65 *d*	84
30	55 *a*	66	92
32 *b*	57 *b*	69 *a*	100

Most of the vases classed as R 84 are a little thinner than the prototype.

6. Late ware (L).

L 7 *c*	7 *d*	16	19 *a*	40

Objects of stone.

The objects of stone were fairly numerous. They included the following :—

(*a*) Six vases, five of which are shown on Pl. II., fig. 9, and Pl. III., figs. 5 and 6.
Pl. III., fig. 5 is of grey marble and comes from Tomb 12 (a similar example was found in 169).
Pl. III., fig. 6, of pink breccia, and Pl. II., fig. 9, left, of basalt, are from Tomb 272.
Pl. II., fig. 9, centre, of black and white breccia, is from Tomb 330. It has a very high polish.
Pl. II., fig. 9, right, of poorly polished diorite, was found in the surface sand.

(*b*) Several slate palettes, the best of which are shown on Pl. III., figs. 1 and 2.

(*c*) A number of smooth brown pebbles used for grinding malachite, galena and resin on the palettes (Pl. III., figs. 1 and 2).

[1] Cf. the classification of these wares in *Cemeteries of Abydos*, II., ch. ii.

(*d*) Two fine flint knives, a forked arrow-head, and a number of rough flint flakes (Pl. III., figs. 3, 7 and 8).

(*e*) A roughly spherical object of poor limestone (Pl. III., fig. 1, left bottom corner). It is pierced through the centre, and, though found in a woman's tomb, looks like a mace-head. The small limestone ring shown in the top right-hand corner of the same group was found beside the mace-head, and may have been fixed at some point on the handle of the mace.

(*f*) The very large flint implement, Pl. III., fig. 10. It was found in surface sand.

Objects of bone and ivory.

Among the objects of bone and ivory were a few bone pins, usually with animal or bird heads and incised decoration near the top (Pl. III., figs. 1 and 2), the remains of an ivory comb, and several spoons of ivory, of which the two best are shown (Pl. III., fig. 1, and Pl. V., bottom).

The only object of copper found was a small pin with the top rolled over (Tomb 7).

Beads.

The graves of Type I. proved remarkably prolific in beads, both of stone and of a light blue glaze. So many and various were the types, that they offered a good opportunity for classification (for the forms see the type-series in Pl. V.). The numbers in brackets indicate the tombs.

Type 1. Discoid.

(*a*) Small discoid, bevelled on edge of hole.
Found in glaze (295), carnelian (295), limonite (?) (162, 295), lapis lazuli (7), and quartzite.

(*b*) Similar in form but larger.
Glaze (12) and carnelian (12).

Type 2. Cylindrical.

(*a*) Short cylindrical.
Glaze (86, 103, 295) and lapis lazuli.

(*b*) Long cylindrical.
Quartzite (140), haematite (?) (140), limestone, lapis lazuli, glaze and black stone (155).

Type 3. Lentoid.
Found in black stone (155).

Type 4. Biconical with rounded keel (so-called barrel-shape).
Found in wood (?) (103).

Type 5. Discoid, thicker at the centre (301).

To these may be added some shapeless pendants of carnelian and shell, six uncut amethysts (272), and two pebbles of rock crystal (205).

Catalogue of tombs.

The following list contains all the undisturbed tombs and the more important of the disturbed. The head lies to the local south, except where the contrary is stated :—

E 7. Type 2 *a*. Body removed. Fine flint knife (Pl. III., fig. 8), copper pin, ivory spoon, seven beads of carnelian and one of stone. Pottery R 76, R 84, R 23 *b* (two), R 57 *c* (two).

E 11. Type 2 *a*. Head removed. Pottery R 84 (three), R 1 *c* (three), R 24 (rimmed), and a decorated vase, Pl. V.

E 44. Type 2 *a*. Intact. Body wrapped in several skins placed with their hair inwards, and the whole burial, including vases, covered with a reed mat. Two B vases, one inside the other, near the forehead (B 22 *a* and B 19 *a*).

E 49. Type 2 *a*. Intact. Pottery B 11 *f*, B 74 *c*, B 94 *b* (Pl. V.).

E 74. Type 3. Intact. This grave had two ledges, the upper to the south and the lower to the west. The recess was distinctly undercut to the east. Body of a child contracted on left side. Head N. Pottery R 76, R 84, R 57 *c*, R 65 *c*.

E 75. Type 2 *a*. Badly disturbed. Rectangular slate palette, blue glazed beads. Pottery B 53 *b*, P 23 *a*, L 40, R 84 (five), R 24 (rimmed, five), R 55 *a*, R 66.

E 90. Type 1. Depth only 40 cm. Child, head 40° W. of S. Pottery R 3 *a* (two), B 1 *d*, B 79 *a*.

E 120. Type 1. Intact. Body apparently cut in two before burial and covered with a fine reed mat (Pl. I., fig. 7). Pottery B 19 *b*.

E 127. Type 2 *a*. Intact. Body ♂ covered with a skin but no reed mat. Pottery B 19 *a* in front of face.

E 132. Type 2 *a*. Body ♂ with head to south. Before the face a vase, B 27 *d*, with a broken flint spear-head. Cleft arrow-head of flint (Pl. III., fig. 7) at shoulder.

E 134. Type 2 *a* (Pl. VI.). Body of a man probably killed by a blow on the forehead. Two fingers of the left hand had been broken and mended. Two vases, B 74 *b* in front of face. Whole deposit covered with a reed mat.

E 143. Type 2 *b*. Body ♂. Head 70° W. of S. The shelf was very large and cut only a few centimetres into the rock. Pottery B 81, P 22, and two R vases (Pl. V.).

E 150. Type 2 *a*. Intact ♂. The hands appeared to clasp a very large rhomboidal slate palette. Before the face were a badly broken B vase, five small flint flakes, and lower down a reed basket. The body was wrapped in a skin.

E 153 and 154. Type 2 *a*. Intact, but 154 had slightly cut into 153. The latter contained the body of a child with a vase (P 1 *b*); the former a man's body and vases P 32 and B 35 *a*.

E 166. Type 2 *a*. Intact ♂. Pottery B 53 *b* and F 14 (Pl. V.).

E 168. Type 2 *a*. Intact ♀. Body wrapped in a skin and the whole burial covered with a reed mat. Pottery B 11 *a* and B 25 *f*.

E 169. Type 3. Intact ♀. Round the head was a string of beads, 19 of carnelian and 6 of lapis lazuli. In front of the face was a grey marble vase (similar to Pl. III., fig. 5) and a grinding pebble. At the feet lay two mud vases of the same form as that of stone. Pottery R 24, R 84 (eight), and R 76 (nine).

E 179. Type 2. Intact ♂. Body covered with reed mat. Pottery B 21 *b* and B 22 *b*.

E 181. Type 2 *a*. Intact. A large shell lay on the skull. Pottery B 21 *c* and B 25 *g*.

E 185. Type 2 *a*. Intact ♀. Fragments of malachite near left hand. Pottery R 84 (six), R 24 (two), B 53 *b*, P 74 and P 23 *b* (two).

E 201. Type 1. Intact. Pottery B 74 *a*, B 75 *b*, R 24 and R 34 *b*.

E 203. Type 2 *a*. ♀. Pottery R 66. Round the neck a string of beads (10 carnelian, 7 amethyst, 17 quartzite, 8 green glaze, 20 lapis lazuli, 5 limestone, and 5 of grey blue stone).

E 205. Type 2 *a*. Intact ♀. Reed mat and skin covering. In left hand two small pebbles of rock crystal. Pottery D 17 *a* and a plain vase of the same form; also F 96 *b* (Pl. V.).

E 225. Type 2 *a*. ♂. Head 30° E. of N. Body had been wrapped in cloth or in a garment, and the whole burial covered with a reed mat. Pottery R 75 and R 24.

E 256. Type 3. Body covered with reed mat. Two fragments of malachite, resin, two grinding pebbles, two slate beads. Pottery D 68 (Pl. V.), P 22, P 40 *e*, P 93 *b*, R 84 (thin type), R 45, R 66.

E 264. Type 3 (Pl. VI.). Intact ♀. The body was covered with cloth, and lay on a fine reed mat, head 60° W. of N. Slate palette and grinding pebble, five small flakes of flint, three ivory pins. Pottery B 53 *b*, W 42, R 57 *c* (four), R 57 *b*, R 36, R 75 (three), P 23 *a*.

E 272. Type 2 *b*. Disturbed. In the grave were found three rough flint flakes, six uncut amethysts, six pieces of galena, a piece of resin, one pottery vase (D 32), and two stone vases, one of basalt and the other of a pink breccia (Pl. II., fig. 9, left, and Pl. III., fig. 6).

E 286. Type 3. Intact. In the hand were pieces of malachite and resin. Pottery D 35 *b* (Pl. V.), P 22 (two), B 53 *b*, R 75 (two), R 84 (thin type).

E 294. Type 2 *a*. Disturbed, ♂. On the shelf, which lay to the north, were a number of

vases and the skull of an ox. Pottery L 40, R 84 (ten, thin type), P 41 *c*, W 43 (two).

E 302. Type 1. Intact. Child's body covered with cloth. Round the body a single string of blue glaze beads. Pottery F 80 *b*, R 24, R 65 *c*, R 66.

E 323. Type 3. Disturbed, ♂ (?). Crouched, on the right side, covered with a reed mat. Pottery B 53 *b*, W 43, R 57 *e*, R 45, R 84, R 75 (six).

E 340. Type 2 *a*. Intact. Body ♀ ; also bones of very young child. Two ivory pins lay at the elbow and an ivory spoon at the knee. In front of the left forearm was a very small decorated vase, with a band of ornament representing a man and several gazelles (Pl. III., fig. 4, and Pl. V.). At the forehead was a circular slate palette, and near it a grinding pebble. In the left hand were fragments of galena and malachite; there were also a fish-bone and small fragments of flint in the vases. Pottery R 84 (four, thin type), R 23 *b*, W 43 (three).

E 351. Type 3 (Pl. VI.). Intact. Body of a very old woman wrapped in a mat. Fragments of malachite in the right hand. A double string of blue glaze beads on the forehead. Under the left hand a mass of beads, which seem to have been strung together to form a kind of mitten or a bead bag. Pottery B 38 *a*, P 43, R 84 (four thin type), W 43, R 65 *c*.

E 352. Type 2 *a*. Intact. Body of very tall man, on right side, with malachite in the right hand and beads of blue glaze on the forehead. Pottery R 84 (two, thin type), R 1 *c*, R 65 *c* (two), W 43.

E 370. Type 2 *a* (Pl. VI.). Intact. Body of a woman, and also bones of a very small child. Necklace of beads (blue glaze, carnelian and stone) round neck, two ivory pins over the skull, pieces of galena in left hand. Slate palette and grinding pebble in front of face, and a small worked flint near left thigh (Pl. III., fig. 2). Pottery R 57 *b*, R 84 (five, thin type), W 43.

E 381. Type 2 *a*. Intact. Near the elbows was a network of dark and light blue glaze beads, every two alternate diagonal lines being of a different colour. This was probably a bead bag. On one of the fingers of the right hand was a ring of small carnelian beads. The fragments of galena and malachite were in a small cloth bag tied round the neck with string, and both this and the grinding pebble and the small piece of flint were together in a hemispherical reed basket at the knees. The slate palette lay beside this basket. It had been broken in two pieces before the burial. The other objects were a mace-head (?) of limestone, carelessly made and never completely drilled, beside which lay a small cylindrical object of limestone, two flakes of flint and one of obsidian, and a pin and a spoon of ivory. Pottery P 74, P 93 *b*, P 81 *a*, R 57 *a*, R 57 *c* (two), R 36, R 38, R 84 (thin type, approximating to L 30 in form). The objects are shown on Pl. III., fig. 1.

E 383. Type 2 *a*. Disturbed. Two small flint flakes, two broken ivory pins, pieces of malachite. Pottery L 30 (six) (Pl. V.), L 40 (Pl. V.), W 55 (two, with a new arrangement of the design, Pl. V.), W 51 (three).

Type II. Shaft burials.

Description of tombs.

The shafts do not vary very much in construction. Most, though not all, are faced with brick around the top, but the brick never descends far, and is covered with mud. Some shafts are so short as to be little more than square, though none are actually square. They may be divided into three types, A, B and C, according to the position of the coffin, which may lie either in the shaft, or in a chamber cut under one of the long sides, or in a chamber cut under one of the ends.

All the shafts are placed with their long axis in the local north and south direction, i.e. true

N.N.W.–S.S.E. The bodies are placed with head to the north, sometimes extended and supine, sometimes semi-contracted. In the latter case the knees are bent, but the thighs are never drawn up so far as to make an acute angle with the spine (Pl. I., fig. 6). The arms are rarely bent up, being usually extended along the sides. The position is very clearly distinguishable from the tight contraction and south orientation in the tombs of Type I. (Pl. I., fig. 4). The body in cases of semi-contraction always lies on the left side. In one case, E 273, two bodies, one extended and one semi-contracted, were found quite intact in one and the same coffin. In E 25 two bodies, one extended and one semi-contracted, were found in separate coffins in the same chamber.

Class A. Burial in the shaft itself.

In these cases there is no chamber and the coffin is merely laid in the shaft, which is then filled with sand. Burials of this type are in every case except one semi-contracted, generally in a short and broad coffin, and they usually lie at only a short distance from the surface.

The most important is the burial E 45. This tomb consisted of a rather short rectangular shaft (180 × 110 cm.), in which lay a short and broad wooden coffin at a comparatively slight depth. The shaft ran roughly N.W. and S.E., and the coffin was unsymmetrically placed, being close to the E. wall. North of the coffin lay three vases of Pl. VI., fig. *c* type. Within the coffin lay the body of a woman, on the left side, in the semi-contracted position. Around the neck was a string of beads and amulets of various types (Pl. II., fig. 6). Two of these objects were button-shaped seals of pink stone, one showing a roughly incised human figure, and the other a rectangular geometric design. Of ivory were three lions, a hippopotamus, a fish, a scarab and three birds. Only one was of wood, and this certainly represented a bolt. Fifteen are cut in carnelian. One of these is a human hand, one part of a leg, another probably a heart, and two others are hippopotamus heads; the rest are indeterminable. Two others are of blue glaze, one of these being a frog and the other an arrow-head. Finally there are small discoid beads of blue glaze and carnelian, and large cylindrical and biconical beads of blue glaze, carnelian and copper.

The only other burials of this type which were accompanied by any objects are E 282, which yielded a bronze mirror of a heavy type (cf. Pl. IV., fig. 8), and E 317, which gave a headrest of the polished red pottery usual in the Vth and VIth Dynasties (Pl. IV., fig. 3). The shaft E 56 is of interest as containing two burials. The upper was laid in the semi-contracted position in a short wooden coffin in the south corner of the shaft, not far from the top. The lower lay much deeper, in a chamber to the south, but it had been completely rifled and only a few bones remained.

Class B. The chamber is cut under one of the long sides.

Only nine graves of this type were found. They were all oriented in the usual direction, local north and south. In seven cases the chamber was cut under the east side, and in the two remaining cases under the west. Only two of the bodies were supine and extended, the rest being semi-contracted. The coffin is in all cases of wood, and in the extended burials is remarkably high and narrow. The chamber is very roughly cut, and in many examples would be better described as a recess. In no case was there any sign of its having been bricked up. In some instances one of its extremities extends beyond the end of the shaft, and in these cases the chamber may be said to lie under a side and an end of the shaft. The shafts of this class are all very short, and occasionally approximate to a square form.

The most important grave of this class was E 47. It consisted of a shaft measuring 170 × 80 cm., with no brick facing at the top. In the top of the shaft were found fragments of a red-polished pottery bowl of the type of Pl. VI., fig. *e*. The tomb was oriented about north-west, and the chamber was cut under the west side. It measured 150 × 60 cm., and was 80 cm. in height. The skeleton lay in a semi-contracted position, on its left side, in a remarkably high wooden coffin, with its head to the true north-west. Round the neck was a string of beads, pendants &c. (Pl. II., fig. 7). The most important of these objects is a small thick cylinder seal of black stone, bearing an incised inscription (Pl. VI., not facsimile) similar to that found on a seal published by Professor Newberry (*Scarabs*, fig. 26, p. 50). Of the amulets eight are of carnelian, precisely similar to those of Grave E 45. Two of them represent hippopotamus heads, two the human leg, and the rest are problematical. Of the nine amulets of bone five are birds, probably hawks, and of the two which are made of wood one is a crocodile and the other is now unrecognizable. Two objects in bright blue glaze certainly represent scarabs. The beads, which are of almost every shape, are made of carnelian, gold, and green-glazed stone, those made of the latter material being identical in colour and work with beads from E 45 and E 101. The largest of the amulets, slightly broken, is apparently of black glaze, and represents a seated animal, probably a hare or a dog.

Tomb E 355 contained an extended supine burial in a chamber under the east side. On the right breast lay a bronze mirror of Pl. IV., fig. 8 type.

No other grave of this class gave any objects whatsoever. E 273 is, however, interesting. It consisted of a shaft with two chambers, one to the east and one to the north. In the former was a semi-contracted body, on its left side, in a wooden coffin, and in the latter lay a coffin containing two bodies, one that of a man supine and extended, and the other that of a child semi-contracted.

Class C. Chamber cut under one of the ends.

In graves of this class the chamber is cut under either the north (true N.N.W.) or south (true S.S.E.) end of the shaft. It is usually well cut and squared off. In some cases its sides are flush with those of the shaft, in other cases it is slightly narrower than the shaft. The entrance to the chamber was no doubt originally bricked up, in some cases at least, as signs of the bricking were occasionally found.

In the shafts of this class extended and semi-contracted burials occurred in about equal proportions. The chamber lay to the north or south indifferently, except that the shafts in each of the parallel rows in which they were arranged tended to have the chamber at one particular end.

The most important of these shafts is the untouched E 21. This grave consisted of a shaft cut in the soft sandstone, measuring 206 × 115 cm. and 540 cm. in depth. At the top it was faced with brick and mud plaster to a depth of one course. The orientation of the shaft was 25° W. of N. The chamber opened off its south-east end, and measured 260 × 105 cm. and 105 cm. in height. It was thus slightly narrower than the shaft itself. The entrance was carefully bricked up, the closing wall being built not in the shaft but actually in the mouth of the chamber itself. On the removal of this wall it was seen that the roof had in places fallen in and partly covered the burial (Pl. VI.). When the fallen rock had been extracted a large wooden coffin appeared, and on the left of this, near the entrance, lay the offering-table to be described later. The vases belonging to it lay close by. Behind this lay the smaller alabaster figure and

the pedestal on which it originally stood. Between this and the wall was a small ivory figurine, and further back still a larger figure of alabaster.

The coffin had almost completely disappeared, but as far as could be seen it was neither inscribed nor ornamented in any way whatever. The body lay supine, with legs and arms outstretched and head to the north.

The offering-table (Pl. IV., figs. 2 and 6) holds a set of vases and implements used in the ceremony of opening the mouth.[1] It is of yellow limestone and measures 232 × 140 mm. On the under side the edges are bevelled off instead of being squared. Above are sockets made to hold the various vases and implements. These vases are some of black stone and some of cloudy rock crystal. The small knives are of slate. The large central implement was not buried with the table, and the set was in other respects incomplete, as one of the sockets is empty. There is also a vase which does not fit the table. The vases are solid, and there is merely a slight hollow at the mouth of each.

The larger of the alabaster figures is 19 cm. in height (Pl. IV., figs. 4 and 5). It represents a nude seated figure, apparently female. The face is of a very short and broad type, and the head is covered by a wig. A portion of the base of the throne on which the figure is seated was broken off in antiquity, and replaced by a new piece fastened on with a fine white cement. The work of the figure is very poor, and the cutting very square. On the back of the neck is represented a cord or necklace.

The smaller figure (Pl. IV., figs. 1 and 9) is, like the larger, seated on a throne, but the throne is fastened with white cement into a dais of limestone painted black. It represents a man with a wig and a short skirt tied in a knot at the front. At the back two cords run, one from each hip, and meet in the centre of the back, whence they run together up to the neck. The hands rest on the knees, but in the right hand is grasped some object whose form is undeterminable. The workmanship of this figure is little, if at all, better than that of the larger. The height, including the dais, is 14 cm. The feet were cut from a separate piece of alabaster and cemented on. The dais has five steps, the highest of which is cut in the form of an offering-table.

The ivory figure is 13 cm. in height, and of rather finer work than the alabaster statues (Pl. IV., fig. 7). It represents a man dressed in a short skirt with a band round the top, and ribbed or pleated horizontally down the right half of the front. The eyes, eyebrows and wig are painted black. The figurine doubtless stood on a wooden pedestal, as there is a projection beneath the feet by which it was fastened in.

Next in importance is E 101 (Pl. V.). This grave consisted of a rectangular shaft 220 × 100 cm. and 540 cm. in depth. The orientation was 20° W. of N. Off the south side of the shaft opened a chamber 250 × 100 cm. and 100 cm. in height. In this lay the body, supine, outstretched and with head to the north, in a plain wooden coffin. In front of the face, between the coffin and the wall of the chamber, lay a vase of diorite[2] and two of alabaster (Pl. IV., fig. 8).[3] Over the left forearm, but outside the coffin, was a copper mirror. A few beads were also found. A rough vase of the type of Pl. VI., fig. *b*, was found in the shaft.

[1] Compare, among other examples, that from the tomb of Adu I. at Dendereh (*Dendereh*, Pl. xxi.). Also No. 5526 in the British Museum (from Abydos). Cf. Budge, *Book of Opening the Mouth*, vol. ii., frontispiece.

[2] For exact parallels see *El Kab*, Pl. x., fig. 16, from a mastaba, and Pl. x., fig. 43, from a stairway tomb of about the IVth Dynasty: also *Gizeh and Rifeh*, Pl. vii.E, no. 36, from tombs at Zarâby dated to the VIth Dynasty.

[3] The type is too well known to need comment. Compare *Dendereh*, Pl. xxi., where it occurs with the same type of mirror as here. It was found over and over again in the square shaft tombs excavated by Professor Garstang at Abydos and dated by a cylinder of Pepi I.

Five of the beads were of the large cylindrical type, with small holes bored axially. They are of mottled grey stone, with a thin light green glaze which wears off very easily. They have exact parallels in E 45 and E 47. Another bead is biconical and well rounded off. It is of a rather bright green glaze, and is similar to one found in E 45.

Few of the other graves of this class yielded any objects of importance. E 265 had perhaps been a rich burial, but was disturbed. The body lay in an extended position on its back. It had been wrapped in cloth and placed in a stuccoed wooden coffin. The door of the chamber had been bricked up, but the bricking was nearly all removed by the plunderers. Over the middle of the body lay a basin of patchy dark-brown pottery containing a spouted vase of the same material (Pl. II., figs. 5 and 8). These are clearly imitations of metal forms, the rivets by which the spout was fastened on to the vase being represented in the copy.

Graves E 202 and E 242 contained supine extended burials, each with a heavy copper mirror. The rather small shaft E 338 had a chamber to the south, in which lay a wooden coffin with the body of a woman in the semi-contracted position, the head resting between two inverted bowls of bright red polished pottery of the type of Pl. VI., fig. *e*. A similar bowl lay behind the head of an extended burial in E 346.

E 102 gave a wooden head-rest. The only other graves of this type in which objects were found are E 220, which contained small blue glaze beads, and E 292, which gave a set of small glaze beads and two glaze amulets, one a hand and the other a small seated figure of a man.

Only one shaft tomb, 285, had any superstructure. This consisted of a small rectangular enclosure of brick, 110 × 75 cm. in area and 75 cm. high. It was badly damaged, and was full of broken vases of types Pl. VI., figs. *a*, *b* and *d*. It lay vertically over the chamber.

Catalogue of shaft tombs.

The following is a full list of the shaft tombs. The catalogue number of the grave is first given. Then follows the position of the chamber, in cases where there is a chamber, marked N., S., E., or W., according as it lies to the local north, south, east, or west of the shaft. After this is given the position of the body, ext. standing for extended and supine, cont. standing for semi-contracted. In the latter case the body must be understood to lie on its left side unless the contrary is stated.

2. Chamber to S.; ext.

6. Chamber to N.; body in disorder.

21. Chamber to S.; ext., chamber bricked up; objects already described.

22. Chamber to E.; ext.

23. Chamber to S.; cont.

24. Chamber to S.; cont.; in shaft were two pieces of quartz and two mud caps off vases.

25. Chamber to N.; two bodies, one ext. and one cont., in separate coffins.

26. Chamber to S.; ext.; remains of bricking at entrance to chamber.

27. Chamber to S.; ext.; on top of the brick sides of the shaft ran a course of rough vases of type Pl. VI., fig. *a*, laid in the same way as the bricks.

36. Chamber to E.; cont.

45. Body in shaft; cont.; amulets &c.; three vases (Pl. VI., fig. *c*) to north of coffin.

47. Chamber to W.; cont.; amulets &c.; pieces of vase (Pl. VI., fig. *e*) in shaft.

54. Body in shaft; cont.

56. Chamber to S., containing scattered human bones; in shaft, near top, a cont. body in wooden coffin (Pl. I., fig. 6).

101. Chamber to S.; mirror and stone vases.

102. Chamber to S.; cont.; wooden head-rest at the head, and remains of wooden model boat(?) in a niche in the side of the chamber.

108. Chamber to S.; cont.

122. Chamber to S.; cont.

123. Chamber to S.; ext.

124. Burial in shaft; cont.

126. Chamber to S.; cont.

151. Chamber to S.; cont.

152. Chamber to S.; cont.; coffin originally inscribed at one end.

160. Chamber to S.; cont. on right side; coffin (length 170 cm.) protrudes 40 cm. from chamber (length 130 cm.).

171. Chamber to N.; ext.

172. Burial in shaft; cont.; a few pendants of blue glaze.

173. Chamber to S.; cont.; coffin (100 × 50 cm.) protrudes from chamber (90 × 80 cm.).

174. Burial in shaft; cont. on right side.

175. Burial in shaft; cont. body of child wrapped in cloth and placed in a wooden coffin (70 × 40 cm.).

183. Burial in shallow shaft; cont. on right side.

200. Chamber to S.; ext.; body wrapped in cloth; vase (Pl. VI., fig. *b*) in shaft.

202. Chamber to S.; ext.; copper mirror to left of head.

204. Chamber to S.; ext.; body wrapped in cloth.

213. Burial in shallow shaft; cont.; four vases of type Pl. VI., fig. *a* on coffin.

217. Chamber to N.; cont.

218. Chamber to E.; cont.; wooden head-rest under head.

220. Chamber to N.; ext.; small green glaze beads; remains of brickwork at entrance to chamber.

226. Burial in shaft; cont. on right side.

227. Chamber to S.; ext. or very slightly cont.

228. Chamber to S.; cont.

237. Chamber to W.; cont.

242. Chamber to N.; ext.; copper mirror to right of head; remains of bricking at entrance of chamber.

251. Chamber to E.; cont.

254. Chamber to S.; ext.; vase (Pl. VI., fig. *c*), at entrance to chamber.

257. Burial in shaft; cont. on right side.

262. Burial in shaft; cont.

263. Burial in shaft; cont.

265. Chamber to S.; ext.; two dark brown pottery vases, one inside the other, over the body (Pl. II., figs. 5 and 8); remains of brickwork at entrance to chamber.

273. Two chambers, one to N., one to E. Two bodies, one ext. and one cont., in same coffin in N. chamber; cont. body in E. chamber.

276. Chamber to S.; ext.

282. Burial in shaft; cont.; body wrapped in cloth; copper mirror over left arm.

283. Chamber to N.; ext.

285. Chamber to S.; cont.; mastaba (?) over chamber.

288. Chamber to N.: ext.

289. Chamber to N.; ext.; wooden head-rest (Pl. II., fig. 11); long wooden pole over coffin.

292. Chamber to S.; ext.; beads and pendants round left wrist.

293. Chamber to N.; ext.

297. Chamber to S.; cont.

298. Chamber to N.; cont.

299. Chamber to N.; ext.

304. Chamber to S.; ext.; remains of brickwork at entrance to chamber.

305. Chamber to N.; cont.; coffin protrudes from chamber.

313. Burial in shaft; cont.; the shaft, being too short for the coffin, was slightly undercut at one end to allow the coffin to lie flat.

314. Chamber to S.; cont.; wooden head-rest (Pl. II., fig. 10).

316. Chamber to S.; ext.

317. Burial in shaft; cont.; pottery head-rest (Pl. IV., fig. 3); vase (Pl. VI., fig. *a*) under coffin.

320. Chamber to N.; cont., on right side.

324. Burial in shaft; cont.

325. Chamber to S.; cont.; remains of bricking at entrance of chamber.

329. Chamber to N.; cont.

332. Chamber to N.; cont.

333. Two chambers, one to N., one to S.; also coffin in shaft; three bodies, all ext.

337. Chamber to S.; cont.

338. Chamber to S.; cont.; head resting between two red pottery bowls of type Pl. VI., fig. *e*.

339. Chamber to E.; cont.

341. Chamber to N.; cont.

346. Chamber to S.; ext.; red pottery bowl of type Pl. VI., fig. *e* behind the head.

350. Burial in shaft; cont.

355. Chamber to E.; ext.; copper mirror over right breast.

358. Chamber to N.; ext.; beads of blue glaze and carnelian, partly at head, partly on right thigh.

359. Burial in shaft; ext.; prone.

360. Chamber to S.; cont.

365. Chamber to N.; cont.

366. Chamber to S.; cont.

367. Chamber to N.; ext.

369. Chamber to N.; ext.

372. Chamber to N.; cont.

373. Chamber to N.; ext.

375. Burial in shaft; ext.

379. Chamber to S.; ext.

384. Chamber to N.; ext.

385. Chamber to S.; cont.

386. Burial in shaft; cont.

393. Burial in shaft; ext.; doorway of chamber lined with stone.

Objects found.

The shaft tombs taken as a whole were remarkably poor. Out of a total of ninety-four only twenty-two yielded any objects, and these in most cases consisted of nothing more than a few vases, a mirror, a head-rest, or beads. All the objects found have already been described, with the exception of the pottery, of which a word must now be said.

Only five types occurred, and they are shown on Pl. VI. There were, of course, slight variations from these forms, but they were not sufficient to warrant the creation of other types. All these types are well known to students of Egyptian pottery. They all occur in the square shafts excavated by Professor Garstang at Abydos, and fixed in date by a cylinder of Pepi I.

The vase fig. *b* has a very long history, extending from the Ist to the XIIth Dynasty through a series of slowly varying forms, which have been worked out by Reisner in his *Naga ed Der* volume. Here, as usual, the vase is made merely of sun-dried clay (Reisner's material *a*). Fig. *a* is again a type with a very long history in the Old Kingdom. It is of very coarse clay with a rough surface, very heavily fired. In colour it varies from brown to red, and in appearance its surface resembles that of a modern brick. Types *c* and *d* are made of Reisner's material *c*. They are brownish or greyish in colour, and have a smooth but not polished surface. Fig. *e* is a light red polished ware of Reisner's material *b*. Its colour and hardness distinguish it very clearly from the warmer and softer haematite slip wares found in tombs of Type I. It belongs in fact to the red polished wares which ran through the whole of the Old Kingdom, reaching their greatest perfection in the IVth to Vth Dynasties (cf. the specimens found by Reisner in the lower temple of the third pyramid at Gizeh), and which were still in favour in the VIth Dynasty. The red polished wares of the XIIth Dynasty are of quite a different type, easily distinguished from these. The examples found in our cemetery are inclined to be of poor fabric. The colour is rather pale, and there is, despite a moderate polish, a gritty appearance about the surface. This would suggest that they mark the beginning of the degeneration of this Old Kingdom red ware.

In conclusion it should be noted that no

objects or types of objects are common to tombs of Type I. and those of Type II., the two kinds of tomb having entirely different contents.

Type III.—Burials in trays made of the midribs of palm-leaves.

In this type of grave the body is supine and fully extended in all cases without exception. It is laid on a tray made by placing side by side a number of the midribs of palm-leaves a little longer than the body, and binding them together with coarse fibre. The body was placed on the tray, which was of sufficient width to be folded over it, and, thus wrapped, was buried in the surface sand. Several of these burials were within a few inches of the surface.

Some of them overlap or are overlapped by burials of other types. These cases are all dealt with in the part of this chapter which is devoted to the description of the collision and overlapping of tombs. Although twelve burials of this kind were found, only one of them, E 15, was accompanied by any objects. Here there were two leather sandals outside the tray, one at the right elbow and the other at the right knee. Over the tray, at right angles to it at a point just below the knees, lay a tall black-topped vase (Pl. V.) of the kind usually found in graves of Type I. Its bottom end actually rested on the tray, while its upper end, which lay rather higher than the bottom, was separated from the tray by seven or eight centimetres of sand. This detail is quite clearly recorded by the photographs. The whole of the upper part of this burial was covered by another burial of the same type, E 16, which lay so closely over it that the trays were virtually in contact.

The orientation of these graves is extremely variable. Nos. 16, 50, 71 and 296 have the head to the north, 61 and 62 to the south, 131 and 336 to the east, 15 to the north-west, and 82 and 85 to the south-west. An example found at Gurob belonged to the XVIIIth or XIXth Dynasty.[1]

Type IV.—Shallow sand burials.

This is a mixed class and includes all the tombs which could not be placed under any of the other heads. The bodies in these burials, as opposed to those of Type I., lie invariably in the surface sand and not in the soft rock below it.

Among them were several burials of children in the semi-contracted position, in wooden coffins barely sunk below the surface of the sand. These contained no objects, but they are clearly distinguished from burials of Type I., not only by the criterion just stated, but also by the presence of a coffin, the looseness of the contraction, and in many cases by the wrapping of the body in cloth. They doubtless belong to the same period as the shaft burials.

The extended burials of this class were of little interest. A few of those which lie with head north may belong to the shaft period. Others are much later. Most were entirely devoid of objects, while a few yielded beads, occasionally of glaze, but more often of glass. Two contained scarabs, which are shown on Pl. VI.

The following is the complete catalogue of these tombs:—

A.—Semi-contracted burials.

31. Pl. I., fig. 4. Body on left side; head N.; vase of type Pl. VI., fig. *d* in front of face; remains of wooden coffin. Edge of grave cut by 42.

32. Body on left side; head N.; wooden coffin.

342*a*. Child, in wooden coffin, on left side; head S. Blue glaze beads at neck.

354. Child, on left side, in wooden coffin; head N.E.

376. Rather deep well-cut grave. Body of

[1] See Loat, *Gurob*, Pl. vii. and p. 2.

man, supine, hands over pelvis, knees originally drawn up to lid of coffin but now fallen. At left of head a vase of type Pl. VI., fig. *c*.

394. Child, on left side, in wooden coffin; head N.

B.—Extended burials.

8. Woman, in wooden coffin; head S.

9. Similar to 8.

10. Child, in wooden coffin; head S.; two blue glaze figures of Bast and various beads.

13. Child, in wooden coffin; head 25° E. of S. Three blue glaze ornaments at neck.

14. Woman, in shaped coffin; head to N.; legs entirely missing below knees. Part of head-rest above head.

35. Very small child, head S., under rough vase in top of Shaft 36.

38. Child; head N.E.

39. Child; head S.

40. Burial in shaped wooden coffin over top of Shaft 51.

41. Child; head N.W.

42. Similar to 41.

64. Child; head S.; wrapped in cloth.

65. Mummy of very small child; head N.E.

72. Burial in shaped wooden coffin; head W.

81. Baby, wrapped in cloth; no coffin; head E.

84. Burial in wooden coffin; head N. Overlaps feet of 85.

91. Burial of a dog close under wall of Ptolemaic vault.

92. Male; head 70° W. of N.

93. Similar to 92; head 40° S. of W.

95. Child; head E. One spherical bead of green stone at pelvis, and a cowrie in the filling of the grave.

96. Woman; head S.E. Green glaze beads.

97. Male; head N.E. Body wrapped in cloth.

109. Mummy of very small child; head 40° E. of S. One small glaze pendant and several pieces of a substance probably natron.

121. Well-cut grave, 200 × 110 cm., and 50 cm. deep. At 37 cm. from bottom ran a ledge 10 cm. broad. At this level was the body of a baby in a mat made of the midribs of palm-leaves. At bottom of grave, body of young female, head N.; body supine and extended, but slightly turned over to left; right hand on pelvis, left hand up above head; face turned to left. Beads and drop-shaped pendants of blue glaze, and two amulets, a human figure in wood and a fish of ivory.

129. Mummy of small child; head 30° W. of S.

130. Female; feet to west; head removed. At the neck two bronze earrings, two glaze amulets, three white stone beads, and other beads of glass and glass paste.

136. Similar to 129; head 20° E. of N.

137. Similar to 136; head 40° W. of N.

138. Male; head 10° S. of W.

139. Female, in painted wooden coffin; head 10° S. of W.

165. Small child, in coffin; head 40° E. of S.; numerous beads of coloured glass.

207. Male, extended, on right side.

222. Child, in shaped wooden coffin; head 10° S. of W.

290. Male body, in shaped wooden coffin; at the left hand a scarab of green glaze, shown on Pl. VI.

306. Female, head E., in shaped wooden coffin.

308. Child, wrapped in cloth; head E.

309. Child, head N.

353. Child, in wooden coffin; head E. Carnelian Ta-urt amulet.

374. Female, head N., in wooden coffin. Over this were laid five long mud bricks.

390. Female, head S., in shaped wooden coffin. At left shoulder, double bronze kohl-stick and sandal of leather; at right of head, sandal and string of small beads; under hands, a scarab of blue glaze and half a blue glaze amulet figure; at the left knee, half a head-rest. Burial clearly disturbed.

Type V. Large brick vaults.

These tombs presented few features of interest, for they were all in complete ruin and had been plundered in antiquity. It was thus impossible to gather details of any value with regard to their architecture. This is however the less to be deplored as better preserved vaults have since been found at Abydos, and will be fully described in another memoir.[1] Suffice it to say that those found in 1909–10 were of the usual late dynastic and Ptolemaic type, in which a shaft of no great depth gives access through an arched doorway to a large barrel-vaulted chamber, whose roof, flat as seen from outside, originally supported a superstructure, probably of hollow mastaba form. The present ruined condition of most of the vaults is well illustrated by Pl. II., fig. 1.

The bodies found in these vaults were all fully mummified and were generally enclosed in coffins of rough-hewn limestone. The only objects of any importance found were a set of shabtis of a good bright and dark blue glaze, and a very fine series of four bronze vessels (Pl. III., fig. 9). The larger of the two pitchers was rather badly damaged, but the other objects were in perfect condition, the small strainer having a bright surface with no trace of oxidation.

An isolated burial of the type usually found in these vaults was discovered in the surface sand, and is shown on Pl. II., fig. 4.

In connection with these vaults should be mentioned a large vase, over a metre in height, containing seventy-three mummies of cats and kittens, which was buried in the sand against the outer wall of one of them (Pl. II., fig. 2).

Overlapping of tombs.

In so crowded a cemetery as this it was only to be expected that the graves should in some cases interfere with one another, and this proved to be the case. A complete list is given below of all the instances in which one tomb lay directly or partially over another, and of those in which the construction of one tomb had damaged or partly destroyed another. In each case some description is added of the precise nature of the damage done by the one tomb to the other, or, in cases of overlapping without damaging, of the exact position of the two graves with respect to one another. Much harm was done to the smaller tombs of the cemetery by the building of the great brick vaults of the Ptolemaic period, which spared neither shaft tomb nor surface grave. More interesting were the cases in which these smaller tombs had interfered with one another. In all cases in which a shaft interfered with a surface grave the latter was of Type I., containing a tightly contracted body and black-topped vases or other objects of the kind usually associated with these. At the point where the two tombs cut the side of the shaft was plastered up with mud, so that the appearance of a mud-plastered depression in the side of a shaft was always a certain indication of the presence of a portion of a grave of Type I. behind it.

On the other hand, there was not a single case in which a grave of Type I. was found completely or partially intact lying either wholly or in part over a shaft. In every case where there was contact between the two types a part, often as much as two-thirds, of the Type I. grave had been entirely removed. Usually it had left no trace, though the surface sand on the site was full of fragments or even whole vases of red-polished, black-topped, wavy-handled and other wares of this kind. In one case, where the Type I. grave E 28 was damaged by Shaft E 27, the legs of the skeleton of E 28 still lay undisturbed in the contracted position at the bottom of the grave, while the upper bones and the black-topped and red-polished vases were thrown together in confusion, vertically over the rest but separated from them by half a metre of sand.

[1] *Cemeteries of Abydos*, II., pp. 84 ff.

There are no cases of a shaft having damaged a grave of type other than Type I., though there are conversely cases in which undisturbed tombs of Types III. and IV.B lay directly over a shaft.

The following is a complete list of the cases of cutting or overlapping of tombs.

A.—Tombs 40 and 50–54 (Pl. VI.).

Tomb 51 is a shaft with brickwork round the top. It has no chambers, but at its bottom, at the north end, was a loosely contracted body in a short rectangular wooden coffin, to which the number 54 was given. At a higher level in the shaft, though still below the top of its bricking, was an extended supine burial in a tray made of the midribs of palm-leaves, its head and shoulders lying vertically over part of the coffin of 54. This was numbered 50. At right angles to this, at a higher level and actually over the bricking of the shaft, was an extended supine body in a poor wooden coffin shaped to the figure. This was numbered 40. It lay directly over the thighs of 50. Outside the shaft, near the south end of its east side, was a grave of Type I. It was partly cut off by the shaft which, as usual, was plastered on the inside at this point. It contained the remains of what was clearly a tightly contracted body. The bones which remained were still in position, but the head and most of the arm-bones had gone, while the thighs were actually cut off in the middle and the lower halves had disappeared together with the lower leg-bones. Immediately to the east of this, so close in fact as to be partly damaged by it, was a similar grave. The body and leg-bones were still in position, but the head and arms had gone. The body was tightly contracted. In the grave were a decorated vase (Pl. V.) and a rough dish of type R 34 *b*.

B.—Tombs 21 and 55.

Tomb 21 is a shaft with a chamber to the south containing an extended burial and various objects. Tomb 55 was an almost circular grave of Type I., containing the lower part of a body in the tightly contracted position. The bones which remained were all in position. It lay at the north-east corner of 21, which had cut away more than half of it.

C.—Tombs 27 and 28.

Tomb 27 is a shaft with a chamber to the south containing an extended burial in a wooden coffin. Tomb 28 is a grave of Type I., whose south half is completely cut away by the shaft, which is plastered at this point. In the remaining half lie the bones of the feet quite intact. Vertically over them, but separated from them by about half a metre of sand, are the rest of the bones and the vases in complete disorder. One of the vases is black-topped and the other red-polished.

D.—Tombs 101 and 107.

Tomb 101 is a shaft with an extended body in a chamber to the south, together with a copper mirror and stone vases. Tomb 107 is a grave of Type I., oval in shape and cut in half by 101.

E.—Tombs 122 and 125.

Tomb 122 is a shaft with a semi-contracted burial in a chamber to the south. Tomb 125 is an oval turba of Type I. cut in half by the shaft. It contains the legs of a tightly contracted body, two black-topped vases and a slate palette.

F.—Tombs 23 and 163.

Tomb 23 is a shaft with a semi-contracted body in a chamber to the south. At its north end this shaft has cut off a part of the grave 163, which is an oval grave of Type I. containing a tightly contracted body with a black-topped vase.

G.—Tombs 262 and 264.

Tomb 262 is a shaft with a semi-contracted body at the bottom. Tomb 264 is an oval grave

of Type I., with a ledge and an undercut recess; it contains a tightly contracted body and red-polished, black-topped and other vases in addition to a slate palette. It was cut by the shaft, but only at its edge.

H.—Tombs 202 and 203.

Tomb 203 is a grave of Type I. cut into by the shaft 202, which has an extended body with a copper mirror in a chamber to the south. The body in 203 is tightly contracted, and there is a vase (R 66) and a magnificent set of stone and glaze beads.

J.—Tombs 200 and 253.

Tomb 200 is a shaft with an extended burial in a chamber to the south. Tomb 253 is a grave of Type I. with red-polished and black-topped vases. The body is in the tightly contracted position, but the upper part of it is cut off by the shaft.

K.—Tombs 122 and 125.

Tomb 122 is a shaft with a semi-contracted body in a chamber to the south. The shaft cuts off about half of 125, a grave of Type I. containing the legs of a body and two black-topped vases and a slate palette.

L.—Tombs 303 and 304.

Tomb 303 is a small grave of Type I. containing the tightly contracted body of a child with a red-polished vase. It is cut by the shaft 304, which has an extended burial in a chamber to the south.

M.—Tombs 23 and 63.

Tomb 23 is a shaft with a semi-contracted burial in a chamber to the south. Tomb 63 is a small oval grave of Type I., from which the body had been removed. The tombs do not actually cut, but so nearly so that the side of 23 was plastered up at the nearest point.

N.—Tombs 32 and 57.

Tomb 32 is a sand grave of Type IV., with a semi-contracted body in a wooden coffin, head to the north. Vertically under this lay Tomb 57, a disturbed burial of Type I., with two R vases. The body was tightly contracted and lay with its head to the south.

P.—Tombs 84–86 (Pl. I., fig. 5).

Tomb 84 is an extended burial in a wooden coffin only a few centimetres from the surface. It passes directly over the feet of 85, an extended burial of Type III. in a tray made of the midribs of palm-leaves. This again is vertically over a burial of Type I., in which are a tightly contracted body, three large vases of Type R 84, a number of beads and pieces of resin, malachite and galena.

Q.—Tombs 130 and 131.

Tomb 130 is an extended burial with the feet to the west. The body was probably in a wooden coffin, of which, however, only very doubtful traces remained. It had two bronze ear-rings, two blue glaze amulet figures, and some beads of glass and of glass paste. Vertically beneath it was the burial 131, of Type III. in a tray of the midribs of palm-leaves.

R.—Tombs 35 and 36.

Burial 35 is that of a small child lying in the extended position with head to the south in the top of Shaft 36. The shaft has a chamber under the north-east corner at a lower level, containing a semi-contracted body.

S.—Tombs 164 and 165.

Tomb 164 is an oval grave of Type I. with a tightly contracted body. It is cut into at the north end by 165, which contains the extended body of a child in a wooden coffin with a number of coloured glass beads.

It will be seen that of these seventeen cases of cutting or overlapping the first twelve, A to M, are cases in which a grave of Type I. is cut by a shaft. The graves cut include all the various forms of Type I., oval, circular, rectangular, with or without ledge or recess. Of the shafts that cut them two have burials in the shaft itself, while the remaining ten have chambers to the south. Of the twelve bodies which these shafts contain, seven are extended and five are semi-contracted.

Of the burials of Type III. in trays one lies vertically over a semi-contracted body in a shaft which itself cuts a tomb of Type I., and another is vertically over a grave of Type I. and at the same time partially under a late extended burial in a wooden coffin.

The only tombs damaged by shafts are those of Type I., and the graves of Type I., while cut into and overlapped by tombs of all other types, have in no case themselves cut into or overlapped a tomb of any description whatever.

To the list should be added the case of Tombs 46 and 47. The latter is a shaft containing a semi-contracted burial in a chamber to the west. Over it lay the scattered and incomplete bones to which the number 46 was given. Accompanied as they are by vases P 22, D 17 *a* (Pl. V.), and R 69 *a*, these bones must have lain originally in a grave of Type I. Whereas, however, the graves of this type were, without a single exception, cut in the soft rock which underlies the sand, this group of broken bones and vases lay in utter confusion *in the surface sand*, without a trace of a tomb, and had therefore been thrown on one side out of its original grave.

The skull measurements.

The skeletons found in the cemetery were in various states of preservation. Many had been damaged by plunderers, and still more had been crushed by the weight of earth above them. Thus less than a third of the whole number were available for measurement, and some of these, from the surface graves, are so uncertain in date that it would be of no advantage to print their measurements. The tables given are four in number, and contain the measurements of the skulls found in graves of Types I., II. and III. Those of the second type have been divided into two tables, according as the body to which the skull belonged was found in the extended or the semi-contracted position.

The measurements taken were eight in number. They are among those recommended by Sergi, and are taken in the manner explained to me by him in his own laboratory from actual examples. Reading from left to right on the tables they are as follows:—

1. Maximum glabello-occipital length.
2. Maximum breadth measured on the parietal bones, keeping clear of the squama.
3. Basio-bregmatic height.
4. Maximum circumference in a plane containing the glabella.
5. Length of arc from nasion to opisthion.
6. Length of arc from one external auditory process to the other through the bregma.
7. Upper facial height, nasion to incision.
8. Bizygomatic breadth (facial breadth).

Measurements 1, 2, 3, 7 and 8 are taken directly from point to point with the callipers, while measurements 4, 5 and 6 are arcs taken with a steel tape. All the measurements are in millimetres.

With regard to the general appearance of the skulls, it is worthy of mention that those of Type I. were much worse preserved than any of the others, either from shafts or surface tombs. They were lighter in weight, more fragile, and distinguishable even at a short distance by their greyish-white tinge. Those from the shafts and from tombs of Type III. were far better preserved and of a brownish colour.

In many cases pieces of skin still adhered to them.

The interpretation of these measurements must be left to the anthropologist to work out. It may, however, be noticed here that in the shaft-tomb group the average cephalic index of the extended bodies is 75·96, which is almost identical with that of the semi-contracted bodies (75·77). The index of the skulls from the tightly contracted burials of Type I. is 73·53, which forms a marked contrast to the shaft-tomb groups.[1] The six measureable skulls from burials of Type III. show great divergence in size, three having indices of less than 70 and one almost reaching 80. The average for the six works out to 73·03, a figure which, derived as it is from so few specimens, can hardly be said to have a serious value.[2]

[1] Compare Elliot Smith's *Ancient Egyptians*, p. 111.

[2] For later excavations in this cemetery and their results see *Cemeteries of Abydos*, II., pp. 17 ff.

TABLE I.

Type I.—TIGHTLY CONTRACTED BODIES WITH RED POLISHED AND BLACK-TOPPED VASES.

Tomb number.	Cephalic index.	Sex.	Maximum length.	Maximum breadth.	Basio-bregmatic height.	Maximum circumference.	Nasion to opisthion.	Ear to ear.	Facial height.	Facial breadth.
12	74·16	♀	178	132	130	505	371	307	—	—
28	72·47	♀	178	129	130	503	370	309	—	—
29	73·48	♀	181	133	150	514	386	325	124	124
86	71·12	♀	187	133	125	524	365	300	—	—
125	71·66	♀	187	134	152	511	387	305	—	—
127	70·45	♂	176	124	—	489	—	296	—	—
128	76·02	♀	171	130	135	476	356	290	113	118
132	73·16	♂	190	139	144	528	384	328	120	134
134	73·03	♂	178	130	132	500	369	296	111	125
135	73·59	♂	178	131	131	495	372	297	107	119
162	75·27	♀	182	137	128	516	364	305	111	127
163	71·66	♂	180	129	132	500	368	301	101	125
164	76·66	♂	180	138	125	506	369	303	108	121
166	68·68	♂	182	125	122	501	375	297	—	—
168	73·33	♀	180	132	133	498	379	304	113	120
169	75·27	♀	182	137	128	510	380	314	110	119
178	76·02	♂	171	130	122	489	350	292	104	119
179	71·84	♂	174	125	126	480	354	286	110	112
210	73·41	♀	173	127	130	482	371	299	108	117
261	73·33	♂	195	143	141	548	396	327	117	131
264	74·72	♀	178	133	132	499	365	311	121	120
274	76·57	♀	175	134	128	495	377	305	—	—
277	71·43	♂	189	135	136	528	397	322	119	129
286	71·91	♀	178	128	132	499	365	292	115	121
294	72·77	♂	191	139	135	535	391	311	—	—
301	72·83	♀	173	126	—	475	—	298	—	—
311	69·56	♂	184	128	131	504	380	304	112	116
312	70·21	♂	188	132	145	525	385	308	122	130
319	76·96	♂	191	147	130	537	391	318	108	128
330	74·43	♀	176	131	127	498	356	310	—	—
340	74·43	♀	176	131	133	499	367	305	116	122
351	76·75	♀	172	132	127	485	367	302	105	117
352	80·23	♂	177	142	130	511	360	312	118	134
356	78·61	♀	173	136	128	498	360	305	103	123
371	69·35	♂ ?	186	129	132	509	361	306	—	—
378	67·74	♂	186	126	132	508	365	307	—	—
381	79·31	♀	174	138	126	505	362	305	116	122
383	71·82	♀	181	130	128	510	376	307	103	122

Average cephalic index 73·53

TABLE II.

Type II.—SHAFT GRAVES.

(*a*) Semi-contracted Bodies.

Tomb number.	Cephalic index.	Sex.	Maximum length.	Maximum breadth.	Basio-bregmatic height.	Maximum circumference.	Nasion to opisthion.	Ear to ear.	Facial height.	Facial breadth.
24	72·47	♂	178	129	134	501	359	309	—	—
36	71·81	♂	188	135	145	524	388	319	—	—
45	74·01	♀ ?	177	131	131	494	370	293	113	115
54	77·84	♀	176	137	131	—	—	—	—	—
56	71·98	♀	182	131	137	503	382	309	108	113
102	80·33	♀	183	147	137	528	388	336	—	—
122	77·90	♀	181	141	139	506	385	314	109	118
124	74·59	♂	185	138	139	520	394	318	108	125
126	73·99	♂	173	128	122	490	353	291	93	118
151	73·26	♀	172	126	132	—	361	—	—	113
152	74·72	♀	182	136	133	511	374	318	117	124
175	76·30	♂	173	132	137	490	369	305	108	122
213	76·61	♂	171	131	131	486	365	300	—	—
218	77·90	♂	181	141	134	517	369	318	—	—
251	80·11	♂	176	141	136	502	374	321	—	126
263	78·49	♂	172	135	130	488	359	308	105	119
285	70·27	♂	185	130	138	519	379	309	128	127
297	78·19	♂	188	147	143	536	398	342	—	131
298	76·88	♂	186	143	135	521	386	323	—	—
305	78·88	♀	180	142	138	518	374	331	112	130
332	70·65	♂	184	130	142	515	382	311	117	133
317	75·98	♀	179	136	131	505	368	305	106	121
337	75·86	♂	174	132	136	498	376	309	—	—
338	76·75	♀	172	132	139	493	360	308	111	119
339	78·82	♀	170	134	134	485	355	298	105	118
350	74·58	♂	177	132	135	489	367	302	112	118
360	78·27	♂	184	144	144	526	375	326	—	—
366	72·43	♀	185	134	137	511	378	311	—	—
372	77·22	♀	180	139	129	508	380	307	—	—
385	76·05	♀	167	127	125	475	357	291	107	119

Average cephalic index 75·77,

TABLE III.

Type II.—SHAFT GRAVES.

(*b*) Extended Bodies.

Tomb number.	Cephalic index.	Sex.	Maximum length.	Maximum breadth.	Basio-bregmatic height.	Maximum circumference.	Nasion to opisthion.	Ear to ear.	Facial height.	Facial breadth.
22	78·16	♀	174	136	133	494	371	307	97	122
26	76·54	♂	179	137	136	505	364	302	118	121
101	80·68	♀	176	142	132	498	365	305	121	124
123	75·79	♂	190	144	141	535	394	325	125	134
202	82·35	♀	170	140	132	494	368	316	—	—
204	76·70	♂	176	135	136	504	372	308	120	121
242	75·57	♀	176	133	135	503	369	314	—	—
254	75·95	♂	183	139	140	519	377	321	115	128
283	74·43	♀	176	131	131	496	365	299	108	122
292	76·88	♀	173	133	131	491	359	300	111	114
293	69·50	♂	200	139	146	551	422	340	125	131
299	80·00	?	170	136	134	501	370	312	116	122
355	76·57	♀	175	134	130	494	361	299	112	113
367	70·53	♂	190	134	142	521	386	316	120	132
373	75·54	♂	184	139	143	524	386	316	117	133
375	71·12	♂	187	133	131	513	387	307	—	—
379	75·26	♀	194	146	143	541	397	331	—	—
384	76·88	♀	173	133	132	507	357	308	112	115
393	74·86	♂	183	137	138	520	367	305	—	—

Average cephalic index 75·96.

TABLE IV.

TYPE III.—BURIALS OF EXTENDED BODIES IN TRAYS OF MIDRIBS OF PALM-LEAVES.

Tomb number.	Cephalic index.	Sex.	Maximum length.	Maximum breadth.	Basio-bregmatic height.	Maximum circumference.	Nasion to opisthion.	Ear to ear.	Facial height.	Facial breadth.
15	69·39	♂	183	127	132	509	356	292	121	126
16	69·73	♂	185	129	131	509	376	295	113	129
50	73·29	♀	176	129	124	484	368	294	100	113
71	68·75	♀	176	121	137	484	358	304	124	120
104	79·77	♂	178	142	132	505	361	317	107	125
336	77·27	♀ ?	176	136	133	506	368	313	108	116

Average cephalic index 73·03.

CHAPTER III.

UMM EL-GA'AB.

By Edouard Naville.

The complete clearing of the so-called royal tombs at Umm el-Ga'ab would have been a work of great interest and importance, but we were obliged to give it up. To remove the sand which covers and protects these venerable walls of brick is to devote them to entire ruin and destruction, unless efficacious measures are taken to protect them and ensure their safety. It is easy to see, at those which have been uncovered by M. Amélineau and Prof. Petrie, how decay is going on fast. It is not possible to prevent the bricks from being stolen, for, in spite of their being several thousand years old, they are still useful.

The preservation of these monuments, when cleared, would require a great deal of roofing and some rebuilding, and since the *Service des Antiquités* did not feel inclined to go to that expense for monuments which have no artistic character, and which do not attract visitors, we were obliged to leave the tombs to the protection of the sand which has preserved them up to this day.

In the first winter, we worked on two separate lines in the space which had not been touched by previous excavators; we went sufficiently deep to make certain that we had reached the virgin soil. One of the branches went straight towards the tomb of Den. We stopped at the top of the staircase going down to the main chamber. The result of the excavation consisted only of two fragments, both of which are important (Pl. VIII.). One is a potsherd. It bears the name of the king usually read *Semerkhet*. The sign *khet* is made very coarsely, and can be identified only from comparison with other mentions of this name.

The other is a crystal fragment now in the British Museum, on which stood the name of *Merbapa*. This name has been rubbed off and replaced by that of a king who is usually considered as being *Semempses*, an identification which seems to me doubtful. On one side are the two signs read *Setiu* or *Septi*, and whose *ka* name is generally admitted to be *Den*. This may be considered as going against this identification.

Why should this erasure of the name of Merbapa have taken place? I cannot see any other ground for it than that this vase had a certain value, being made of crystal, and that it was stolen from the funerary monument of Merbapa and put in that of Semempses. This may have been done either in accordance with a royal order, or merely by ordinary thieves. I cannot believe that even at that remote age the kings had much respect for the monuments of their predecessors; I do not see what would have prevented Semempses from appropriating what had belonged to Merbapa; and as for ordinary thieves, we have abundance of proofs that they often practised their craft very soon after the burial. Perhaps even the robbers were the very men who had been employed in the burial.

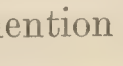
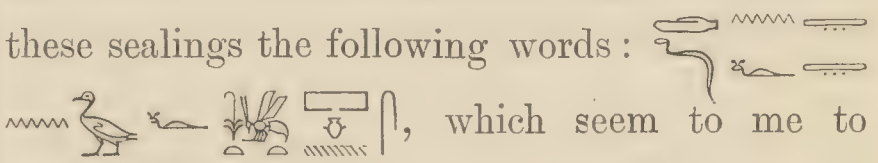
The other branch started from the point where work stopped the year before, from two lines of horizontal vases arranged like the edges of a causeway, and which seemed to point to the tomb of a king called *Zer* by Prof. Petrie, *Khent* by Dr. Budge and Prof. Erman, a name which I read *Shesti*, since the sign appears to me to be

that which accompanies the name of Horus in the texts of the Pyramids (Horshesti).

Very soon we found that what we believed to be the causeways stopped. The pots lining them were certainly not older than the XVIIIth or XIXth Dynasty, for we met with many painted fragments of that epoch. Occasionally the lines were interrupted by pockets of coarse pottery having an archaic appearance, and which will be described in another chapter. What we found in great number, and which seems to be everywhere in the sand at Umm el-Ga'ab, are thousands of quite small cups and tumblers in red earthenware, most of which were never used. Mr. Hall believes that their use was votive, like that of similar objects in Greece. They may be of a comparatively late date, since we found two ostraca, one of Osorkon I., and the other of one of the Psusennes.

Where the lines of pots stopped were six mud figures of Osiris lying on a bed of hard sand, and a bit of sandstone with the top of a cartouche where we read (Pl. VIII.), which may be the beginning of the name Arsinoe. These figures are of remarkably good workmanship, as may be seen on that which is in the Ashmolean Museum. Two of them had strings of blue glaze beads round their necks. This find was in the direction of the tomb where M. Amélineau found the bed of Osiris now at the Cairo Museum. This black granite monument has been interpreted in various ways, and assigned either to the XIIIth Dynasty or to the latest Pharaohs of the XXXth Dynasty. Although the spot where the bed was found is about 40 metres distant from the place where those statuettes were lying, it looks as if there was there something in a special connection with Osiris. Therefore we resolved to excavate entirely in the next winter the space as far as the tomb of Shesti (Zer), and even to clear again that tomb.

No previous excavator had touched the ground, which was attacked towards the tomb of Shesti (Zer), but the result was most disappointing; we did not even find small objects like the Osiris of the previous years, and even in the tomb itself, of which we cleared again the greatest part, nothing at all appeared; the result was purely negative.

On the other side of the mound, we cleared again completely the tomb of Perabsen and a large space around it, so that we were certain that there was no other tomb. We found that the plan published by Prof. Petrie was quite correct, but in this place our researches were not as barren as on the other side. We discovered a certain number of clay sealings, which have been drawn carefully and published on Pll. IX.–XI. They mention two kings,  Perabsen, whose name is generally surmounted by the God Set, and , Sekhemab. As to the question: which of them is the oldest, there can be no doubt that it is , and that he is the father of Perabsen. We read on one of these sealings the following words:  , which seem to me to mean: "He joined the two lands for his son, the king of Upper and Lower Egypt, Perabsen." We must notice that Perabsen is called king of both parts of Egypt, though his *ka* name bears at the top only Set. These sealings, some of which are very similar to those discovered by Prof. Petrie, are on unbaked clay. They do not come from caps of large jars. The clearing of other tombs might perhaps result in the discovery of some more sealings of the same kind. Those published on Pl. X. look like deeds of property or inventories, probably of the property of the deceased.

The plan added to the plates shows the amount of work we have done at Umm el-Ga'ab, the area which we excavated, and that which we pitted and trenched in order to make sure that no tomb had been passed without being excavated. It seems nearly certain that there is no new tomb to be discovered in the mound properly called Umm el-Ga'ab.

CHAPTER IV.

THE POTTERY ETC. OF UMM EL-GA'AB.

By H. R. Hall.

Umm el-Ga'ab (more correctly spelt Umm el-Qa'âb), the "Mother of Pots," is the native name for the group of sand hillocks that covers the remains of the tombs of the most ancient Egyptian kings. The origin of the name is evident when the spot is reached. The mounds are everywhere covered with little pots, some whole, others broken, others in fragments. Everywhere one steps one crushes fragments of pottery into yet smaller fragments. But nothing is more indestructible than a potsherd; and when the particular size (about two inches across) and peculiar trapezoidal shape, which in conjunction with the slight curve of the pot afford the greatest resistance to the smashing power of the foot, are reached, nothing more will affect the sherd than the possible eroding powers of wind and driving sand. Sometimes one picks up a fragment that has been affected in this way: one is illustrated on Pl. XV. 1. It is a bit of a big jar of the Ist Dynasty, with upon it incised the signs , that has lain for centuries on the hard water-compacted and wind-scoured flat desert that lies between Umm el-Ga'ab and the hills, in the track of the rare *sêls* (*syûl*) or rain-torrents that from time to time have descended from the desert wadis, so that water too may have contributed to score and round it. But wind-driven sand will do much, and the peculiar eaten-away appearance of this fragment, in spite of its hardness, is a witness of what it can do. Otherwise, nothing can affect the potsherd further if it is on the dry desert, as here. So that, notwithstanding continual smashing, Umm el-Ga'ab is still as much the mother of pots as ever it was, and each mound will probably have its cap of brown potsherds till the end of time.

These pots are relics of the devotion of the old Egyptians to the *Manes* of their most ancient kings in the holy land of Osiris. Most of them are little offering-cups but an inch or two in diameter, made in the roughest way of coarse brown pottery, many of them so summarily that they have holes in them and can never have held water. Wherever we find them on the Abydos desert we may suppose that the old people considered that some very sacred spot lay beneath the sand. The enormous quantity of them at Umm el-Ga'ab shows the popularity of the site of the ancient royal sepulchres. One might therefore suppose that wherever one sees the brown rust of the pots crowning the summit of a sand-hill, there excavation will be sure to reap a rich harvest. This assumption, however, does not seem to be a correct one, as the sounding of such places has often been attended with absolutely no result. Apparently the Egyptians sometimes made mistakes, and decorated with their votive pots places where there was really nothing at all to venerate. A hillock was enough; beneath it there ought to be something holy, and for the people there was. However, the presence of the pottery is often a very good guide to successful digging, as M. Amélineau found in the case of Umm el-Ga'ab.

The votive pottery of Umm el-Ga'ab does not consist exclusively of the little pots; larger vessels are also found, though these are only in

fragments on the surface. Complete pots are only found when digging. The work of 1909–10, which attacked a portion of the site previously unexplored, in the hope (which proved vain) of finding previously unknown royal tombs of the early period, revealed a great number of these, stacked in more or less orderly rows, as if they formed the borders of a road (Pl. XVIII. 4, XIX. 1). The first trace of this "road" had already been found in the preceding season (1908–9) by M. Naville and Mr. Ayrton (E.E.F. *Arch. Report*, 1908–9, p. 1). Nearly all the pots were of a common type of the New Kingdom, of a gourd-like shape with double swelling, of which the lower bulb was the larger. The neck of another common type is short and straight-sided, with no lip or handle (Pl. XIII. 4, XV. 5). Less common types are also illustrated on Pll. XIII. and XV. The small votive pots are probably of the same date. Only one fragment of very late date has been found (Pl. XV. 9).

But, apart from fragments of the great Ist Dynasty offering-jars, which had at an unknown period strayed from the royal tombs, pottery of an earlier date than the New Kingdom was also found. At a lower level than the rows of large New Kingdom pots, we found here and there, at a few inches above the *gebel* surface, deposits of pottery (Pl. XIX. 2), often in fragments only, which seem to be of the Old Kingdom. Their ware is of much the same brown coarse character as that of the later pots, but rather harder, though without the very hard surface of the Ist Dynasty jars. The shapes of the perfect vases found may be seen from the illustrations (Pll. XI.–XIII. and XV.–XVI.). Simple footless jars [1] (Pl. XII. 5, XVI. 1, 2), elongated cups [2] (Pl. XII. 1, 2, XVI. 5), a cylindrical jar of the early type [3] (Pl. XI., XV. 2), pot-stands [4] (Pl. XII. 11, XVI. 7), two tall stands, one of good shape [5, 6] (Pl. XI., XV. 3), small bowls [7] (Pl. XII. 6, XVI. 4, 6), saucer-shaped jar-stoppers with broad ledges [8] (Pl. XII. 7, XVI. 8, 9), and peculiar "corks," hollow balls of clay with a single hole below [9] (diagram, Pl. XII. 9), complete the list of perfect specimens. The selection of specimens now in the British Museum gives the following measurements: [1] No. 49294, H. 9 ins. (23 cm.); [2] Nos. 49296–7, H. 5 ins. (12·75 cm.); [3] No. 49298, H. $6\frac{1}{2}$ ins. (16·5 cm.); [4] No. 49304, H. $4\frac{1}{4}$ ins. (10·8 cm.); [5] No. 49305, H. 10 ins. (25·5 cm.); [7] Nos. 49300–2, D. 6 ins. (15·3 cm.); [8] No. 49306, D. $4\frac{3}{4}$ ins. (12·1 cm.); [9] Nos. 49307–8, D. $3\frac{1}{2}$ ins. (9 cm.) and 4 ins. (10·2 cm.). The stand type [6] is not in the British Museum but went elsewhere.

It is evident from these pots that the custom of leaving vases as votive offerings on the site of the early royal tombs had begun as early as the time of the Old Kingdom. During the Middle Kingdom and XVIIIth Dynasty we find no trace of the custom, but under the XIXth Dynasty it evidently revived, and to the later New Kingdom belong most of the innumerable votive offerings that have given Umm el-Ga'ab its name. This fact seems to square with the probability that the cult of the early kings revived after the time of the XIXth Dynasty, when we find Seti I. venerating the memory of his royal predecessors back to the composite "Mena" of legend on the walls of his funerary temple. Then later on we have the stone "Bed of Osiris," found by Amélineau in the tomb of Shesti (Khent or Zer), to testify to the fact that this particular tomb was, probably about the time of the XXIInd Dynasty, regarded with special reverence, probably as a tomb of Osiris.[1] Perhaps much of the later pottery may be,

[1] It has been supposed that the name of the king here buried, read rightly or wrongly as "Khent" by the later Egyptians, was confused by them with the name of the special god of Abydos, Khent-amentiu, who had long been identified with Osiris. Thus the tomb was supposed to be one of Osiris, and so the stone bed was placed here. M. Naville considers that the chamber of Seti I., discovered at the E. end of the hall of the Osireion, or "Strabo's well," in 1914, was the chief "Tomb of Osiris" at Abydos.

like the clay Osiris-figures we found (p. 36; Pl. XIV. 3), of this date.

It is, however, difficult to understand the orderly rows in which the larger pots were found disposed. They must be votive. We cannot suppose that there was a potter's workshop here, so far from water, unless the pottery to be sold to pilgrims was for some sacred reason actually made on the spot. The theory that they marked a road to the tombs seems improbable.

Some types of the later pottery are shown on Pll. XIII., XV. The fragment of Roman barbotine ware (B.M., No. 49316), with pottery chain (Pl. XV. 9), is the solitary representative of the pottery of the later age. It is of a well-known type. A bit of a fine blue glass vase (B.M., No. 49315) is probably Ptolemaic, and a fragment of a Ptolemaic cartouche on a piece of stone is illustrated on Pl. VIII.

Reverting to the earliest ages, we found on the *gebel* surface east of the tomb of Den the two fragments of a very interesting chert implement or ornament of peculiar shape (Pl. XIV. 2; B.M., No. 49284). The two pieces do not join, and a prolonged search for the missing portions was unsuccessful. It is difficult to say what the purpose of this remarkable object may have been.

Many fragments of simple stone bracelets of D section were found, which had evidently strayed from the royal tombs, where they were found in numbers by Prof. Petrie, who has described and illustrated them fully in *Royal Tombs*, II., pp. 35, 36, Pl. xxxv., and elsewhere. They are therefore not illustrated again here.

CHAPTER V.

REPORT ON A SMALL COLLECTION OF MUMMY DOGS.

By Kathleen Haddon.

These skulls were obtained through the Egypt | tailed dogs figured on their monuments, and Exploration Fund from Abydos, where there is a necropolis of dogs, probably dating from the time of the Roman occupation.[1] The animals are found in great numbers, and are not carefully embalmed, but appear to have been treated like those described by MM. Lortet and Gaillard,[2] that is, they were macerated in a bath of natron, and then dried slowly, wrapped in linen. The front legs were extended down the chest, and the back legs bent up, with the tail between them, the head being at right angles to the body.

Unfortunately I was able to obtain only eleven skulls and four whole skeletons, one of which was that of a young puppy. It seems probable that, with one exception, the animals were Pariah dogs, but skull No. I. is almost certainly that of a jackal.

In their study of mummified Egyptian *Canidae* MM. Lortet and Gaillard recognize four types of dogs, besides a fox and several jackals[3]; these are as follows:—

1. *The Egyptian Pariah Dog.*—This type is rather smaller than the stray dogs of Constantinople, and has a large head with a small orbital angle, recalling that of jackals and wolves.

2. *The Tesem Dog.*—The name *Tesem* was given by the Pharaonic Egyptians to the curly-

described as an ancient Egyptian greyhound. Properly speaking, however, this dog is not a greyhound, and hence has been given another name; it stood high on its legs, and had a long head with a high forehead.

3. *The Egyptian Dog.*—This dog is larger than the Egyptian Pariah, but much smaller than the *Tesem*. The skull is shorter and wider than that of the Pariah, with a higher forehead and larger orbital angle, and rather resembles that of the *Tesem*. The skeleton recalls that of a Constantinople stray.

4. *The Egyptian Spitz.*—Only known from one mummified skull from Asyût, which bears a strong resemblance to a living specimen described by Hilzheimer.[4] This dog was considerably taller than the Pomeranian Spitz, and more resembled the group of Dogues and the Abyssinian dog.

With the exception of the last type, all these dogs fall into Dr. Studer's group of Southern Dogs[5]; these are of the Pariah type, and include the dogs of Africa, Australia with the neighbouring islands, South Asia, and Turkey, that is the Dingos, Tengger dogs, Pariahs, Greyhounds, and Dogues of Tibet. The Egyptian Spitz, on the other hand, approximates to the type found in the Palaearctic group, and probably represents an ancient race descended from

[1] The hypogeum in which these dog mummies and skeletons were found is described in chap. ix. of *Cemeteries of Abydos*, II., p. 99 ff., and illustrated on Pll. xvi.–xix. of that volume.

[2] Lortet and Gaillard, *La Faune Momifiée de l'Ancienne Egypte* (Lyon, 1905), p. 1.

[3] *Loc. cit.*, 5th series, p. 288.

[4] M. Hilzheimer, *Beitrag zur Kenntniss*, 1908, p. 97, Taf. ix.

[5] Th. Studer, "Die Praehistorischen Hunde," *Abhandl. der schweiz. palaeont. Ges.*, 1901, p. 25.

Canis palustris, the dog found in the Swiss Lake dwellings.

The skulls of mummy dogs which I received in all probability belonged to Pariah dogs, as they show a great range of variety consistent with the mixture of races usually found in the Pariahs of to-day. With one exception the skulls are undoubtedly those of dogs, but No. I. shows all the characteristics of a jackal; this may be due to interbreeding between the dogs and jackals, or it may be the skull of a true jackal placed among the dogs.

With one exception the skulls are those of full-grown dogs, the majority being old, as shown by their worn-down teeth. For instance, No. VII. has all its teeth very much worn, while all the left upper premolars are missing, the bone having grown over and obliterated the holes left by the roots of P.M. 2, 3, and 4; the middle upper incisors are missing, and the bone is rather worn; there may have been some damage done to this part, but it was contemporaneous, there being no recent break. The lower jaw also has the teeth very much worn down, the canines being about one-half of their original size, while the incisors are either worn down or missing. Several of the other dogs lost their incisors during life, so that the bone has filled up the gap, namely: No. IV., right side of lower jaw; No. VIII., left side of lower jaw, including canine and P.M. 1 and 2, while in the upper jaw, left P.M. 2 and right P.M. 2, 3, and 4 are missing; No. XI., lower incisors; No. XII., upper and lower incisors.

According to some Egyptologists, the practice of embalming was carried out for sanitary reasons, and any dogs found dead in or near the town were mummified. MM. Lortet and Gaillard object to this theory on the grounds that the dogs examined by them were for the most part healthy adults and not old or ill, and they therefore think that the dogs were killed, probably by strangling, as they show no signs of violence. Three or four of my dogs were quite old enough to have died of old age, and one of them, No. XI., also suffered from disease of the lumbar vertebrae; one or two show signs of a blow on the head; but the rest, like MM. Lortet and Gaillard's dogs, are healthy adults and show no signs of violence.

Mention might perhaps be made here of the young puppy which was sent along with the other dogs. This animal was still in its wrappings, and it was extremely difficult to get it out entire, as owing to its tender years the apophyses were free. The skull is 90 mm. long and 56 mm. wide across the zygomatic arches; the bones are not fused together, and the fontanella is slightly open. All the milk teeth are present, and the first molars may be seen lying below the surface in the lower jaw. There are no signs of disease or of violent death, and it was wrapped up in the same manner as were MM. Lortet and Gaillard's dogs as described above.

Through the courtesy of Dr. Andrew Balfour, of the Wellcome Research Laboratory, Khartûm, I was able to obtain the skeletons of eight modern Pariah dogs from that locality, and it is interesting to note that half of them have their premolars and molars much worn, although in no cases have they lost any teeth. The various injuries exhibited by the mummy skulls were probably part of the ordinary vicissitudes in the life of a Pariah dog; that they were not fatal is usually obvious—for instance, No. VI. suffered at one time a fracture of the left ramus of the lower jaw, but this healed perfectly and only resulted in the loss of the third premolar and periostitis round the injured part. That an injured Pariah can get its living was proved by a skeleton I obtained from Ceylon through the kindness of Mr. J. D. Bevan, of Christ's College, Cambridge. This animal had evidently broken its right hind leg, for the tibia is bent almost at right angles, and firmly welded on to the fibula by ossification round the break.

Of the three skeletons belonging to dogs Nos. XI., XII., and XIII., two are undoubtedly

dog-like, while the third, No. XI., shows affinity with the jackals. There is a good deal of variation in the relative length of the limb-bones of mummy dogs, the most constant character being that the femur exceeds the tibia in length, thus resembling wolves and quaternary dogs; in jackals the two are equal, while in modern dogs the tibia is longer than the femur.

The following table shows the length in millimetres of the long bones of these mummy dogs:—

Dog No.	Scapula.	Humerus.	Radius.	Femur.	Tibia.
XI.	107	134	131	150	150
XII.	127	162	169	180	178·5
XIII.	133	165	168	187	185

Nos. XII. and XIII. show the usual proportions of femur longer than tibia, and radius longer than humerus. No. XI., on the contrary, has the femur and tibia equal in length, and the humerus longer than the radius. This last characteristic also occurs in two of MM. Lortet and Gaillard's[1] mummy Pariah dogs from Rôda, Nos. 47 and 53, but the equal length of femur and tibia is peculiar to the jackals, and probably indicates interbreeding. MM. Lortet and Gaillard[2] describe a mummy dog from Asyût, the skull of which exactly resembles that of *Canis doederleini*, while the skeleton is obviously that of a Pariah dog; this they regard as representing one of the numerous individual variations produced by the crossing of the Pariah dog with one, or many, of the wild *Canidae* of the Nile Valley.

It is interesting to compare the measurements of these mummy dogs with those of modern Pariahs. It may be noticed that in all of these the tibia exceeds the femur in length, except in No. 3, while the radius is longer than the humerus.

Dog No.	Scapula.	Humerus.	Radius.	Femur.	Tibia.
3	139	172	178	196	196
4	145	178	181	198	199
11	133	162	166	177	181
12	110	126	130	139	145

[1] *Loc. cit.*, 1st series, p. 8.

[2] *Loc. cit.*, 5th series, p. 281,

Dogs No. 3, 4, and 11 are from Khartûm, and No. 12 from Ceylon.

In all these skeletons of mummy dogs there are the typical number of vertebrae, i.e. thirteen dorsal, seven lumbar, and three sacral. The neural spines of the dorsal and lumbar vertebrae, however, instead of being smooth and straight as in modern domestic dogs or any of the wild *Canidae*, are lumpy and frequently bent to one side. In this they resemble the Egyptian Pariah dogs described by MM. Lortet and Gaillard,[3] who suggest that as the Pariahs of this locality to-day live in holes they have dug for themselves, so these mummy dogs carry, engraved on their vertebral column, the proof that they too were born and lived in similar burrows which they dug in the mounds and hillocks round the town. There is also considerable variation in the size of the zygapophyses on different sides of the same vertebra, in the dorsal region, and at first it seemed that this might be due to the animal always lying curled up on the same side; a closer examination, however, showed that the same side had not always the larger zygapophysis. Thus in No. XIII., while on the seventh dorsal vertebra the left posterior zygapophysis measures 6 mm. and the right only 4 mm., on the eighth vertebra this is exactly reversed, the left posterior zygapophysis being 2 mm. smaller than the right. This variation seems very constant among the *Canidae*, occurring in wolves, jackals, and domestic dogs, as well as in modern Pariahs; indeed, in a Pariah from Khartûm (No. 6) I found that the right posterior zygapophysis was entirely missing from the fifth, sixth, and seventh dorsal vertebrae.

One of the mummy dogs, No. XI., shows a peculiar spongy growth of bone round the centra of the last dorsal and first two lumbar vertebrae, as if they had been attacked by ossifying sarcoma. Dr. Duckworth suggests that this condition may be due to *Spondylitis*

[3] *Loc. cit.*, 5th series, p. 291.

ossificans, a disease akin to rheumatoid arthritis, and, attacking the lumbar region, especially in old people, it causes ossification of the ligaments and extends to the centra. This phenomenon may be compared to that described by George Rolleston[1] as affecting various regions of the vertebral column in man. It is fairly common in the cervical region, and has been described by Dr. Thurnam as occurring in ancient British skeletons found in long barrows, and he suggests that it may be due to their troglodytic mode of life, by which their heads and necks would be much exposed to violent knocks on the sides and roofs of their narrow doors and passages. Dr. Rolleston, however, points out that a similar morbid condition may be found in many vertebral columns of much later date than those of the cave dwellers, and in a footnote he says, "I have myself observed this condition in the vertebral column of a Newfoundland dog and a horse, which are preserved in the University Museum; it is said to be normally present in the Dipodidae and Dasypodidae, animals, it is right to add, of burrowing habits, but it is also found in many cetacea."

This being the case, one can hardly quote this disease as an additional proof of the underground habit of these dogs, but it is a point worthy of notice, for, although it is unlikely that this morbid condition of the vertebrae is caused by actual concussion, the unnatural crouching position assumed by these animals may have caused local irritation, leading to inflammation, which would render them susceptible to disease.

The fourteen skulls, as mentioned above, present very various types, from the long-headed jackal with its flat forehead, to a sturdy broad-headed dog with a high rounded forehead. It is therefore difficult to give any general description of the skulls, and perhaps the individual points are best shown by the measurements. These were taken in accordance with MM. Lortet and Gaillard's method,[2] which seems preferable to that originated by Prof. Huxley,[3] which entails bisection of the skulls in order to ensure accuracy. Huxley advocates taking a fixed line along the base of the skull, which he calls the *basicranial axis*, giving this the value of 100, and expressing all other measurements in terms of it. To obtain this *basicranial axis* "a median line is drawn in the bisected skull from the hinder edge of the basioccipital bone to the junction between the presphenoid and the ethmoid in the base of the skull. . . . When, as often happens, the skull under examination cannot be bisected, a sufficiently close approximation to the true length of the basicranial axis may be obtained by taking the distance along the median line of the base of the skull from the posterior edge of the basioccipital bone to a point opposite the middle of the distance between the optic and the ethmoidal foramina. This point always lies a little behind the posterior extremity of the romer." A measurement of this description that has to be judged by the eye may not be absolutely accurate; and as accuracy is most essential in the measurement that serves as a basis for all the others, it seems best to give the absolute, and not the proportional measurements.

According to Dr. Studer[4] the following measurements are essential:—

1. *Total length of skull*, from the posterior margin of the occipital crest to the alveolar border of the median incisors.

2. *Length of base of skull*, from the anterior margin of the foramen magnum to the alveolar border of the median incisors.

3. *Length of base of cranium*, from the anterior margin of the foramen magnum to the suture between the basi- and the pre-sphenoid.

[1] G. Rolleston, *Collected Scientific Papers and Addresses*, vol. i., p. 296.

[2] *Loc. cit.*, 1st series, p. 4.

[3] T. H. Huxley, "On the Cranial and Dental Characters of the Canidae," *Proc. Zool. Soc. London*, 1880, p. 238.

[4] Studer, *loc. cit.*

4. *Length of base of face*, from the sphenoidal suture to the alveolar border of the incisors.

5. *Length of nasals*, greatest.

6. *Breadth of nasals*, greatest.

7. *Length of palate*, from the posterior indentation to the alveolar border of the incisors.

8. *Breadth of palate*, between P.M. 4 and M. 1.

9. *Temporal diameter*, greatest. (I took this from the suture between the parietals and squamosals.)

10. *Auricular diameter*, from the auditory openings. (I took this from the posterior margins, as the anterior was frequently broken.)

11. *Orbital diameter*, from the postorbital apophyses.

12. *Zygomatic diameter*, greatest.

13. *Interorbital diameter*, minimum (measured along the margin of the orbit).

14. *Length of cranium*, from the posterior margin of the foramen magnum to the fronto-nasal suture.

15. *Length of face*, from the fronto-nasal suture to the alveolar border of the incisors.

16. *Height of skull*, from the basisphenoid to the highest point of the skull, i.e. the sagittal crest.

17. *Length of upper cheek teeth*, from P.M. 1 to M. 2.

18. *Length of two molars*, on the outside.

19. *Length of carnassial.*

20. *Breadth of carnassial.*

21. *Orbital angle*, the supplement of the angle made by two lines, perpendicular to the axis of the skull and tangential, one to the zygomatic arch and postorbital process, and the other to the two frontal prominences.

MEASUREMENTS IN MILLIMETRES OF EGYPTIAN MUMMY DOGS' SKULLS.[1]

		I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.
1	Length of skull . .	163	191	194	187	178	190	(185)	183	176	177	164	(177)	192	193
2	Length of base of skull	147	164	171	159	153	165	(159)	162	156	151	138	156	164	168
3	Length of base of cranium	41	45·5	50	44	45	46	44	47	47	44	41	43	49	47
4	Length of base of face .	106	119	121	116	109	119	(114)	115	109	108	98	113	116	122
5	Length of nasals . .	55	72	81	74	67	71	68	71	67	67	61	75	78	72
6	Breadth of nasals . .	14	17	21	19	16	17	18	17	16	16	15	15	18	17
7	Length of palate . .	80	90	92	89	79	92	(87)	87	83	80	76	82	91	92
8	Breadth of palate . .	43	53	53	50	45	53	55	50	47	44	45	49	46	47
9	Temporal diameter .	52	60	55	58	52	54	55	54	53	56	53	58	58	52
10	Auricular diameter .	50	59	63	59	52	57	59	60	56	57	53·5	59	58	56
11	Orbital diameter . .	37	51	59·5	55	50	44	(52)	53	47	46	46	50	53·5	47
12	Zygomatic diameter .	85	97	108	102	100	96	110	104	94	95	89	102	97	102
13	Interorbital diameter .	28	35	41	38	34	31·5	35	35	33·5	32·5	33	34	36	34
14	Length of cranium .	91	99	101	95	92	100	99	102	93	94	91	93	102	102
15	Length of face . .	77	99	100	96	88	97	(97)	95	88	87	(81)	91	99	94
16	Height of skull . .	45	56	62	54	49	52	56	55	49	48	50	55	51	53
17	Length of up. P.M. & M.	65	66	67	65	67	67	65	66	65	63·5	(57)[2]	68	66	68
18	Length of up. 2 molars	20	20·5	19	21	20·5	20	20	20	21	20	—	19	19	21
19	Length of P.M. 4 . .	18·5	20	18·5	20	19	19	19	18	18	18	17	18·5	18	18
20	Breadth of P.M. 4 .	9·5	11	10	11	10	10·5	11	10	9	10	8·5	10	10	10
21	Orbital angle . .	43°	52°	52°	52°	47°	48°	43°	49°	50°	51°	54°	43°	55°	44°

[1] The figures in brackets are approximate, owing to the front of the premaxillae being worn away.

[2] M 2 missing.

These skulls show a great range of variation, but it is not greater than that of a selection of modern Pariah dogs, as shown by the following table :—

MEASUREMENTS IN MILLIMETRES OF PARIAH DOGS' SKULLS.

		Khartûm.									Donqonab.[1]		Ceylon.
		1 ♀	2 ♀	3 ♂	4 ♀	5 ♂	6 ♂	7 ♂	8 ♀	11 ♀	13	14	12
1	Length of skull . .	178	196	188	196	187	200	157	204	184	174	192	152
2	Length of base of skull .	155	168	160	171	161	172	138	176	161	152	165	131
3	Length of base of cranium	48	45	45	47	43	52	40	49	44	44	46	38
4	Length of base of face .	107	124	116	124	119	121·5	99	129	118	109	119	93·5
5	Length of nasals . .	66	79	77	77	73	78	58	78	71	66	(76)	55
6	Breadth of nasals . .	16·5	20	17	18	18	20	16	19	16	17	18·5	14
7	Length of palate . .	84	93	86	93	39	92	75	98	91	83	90	70
8	Breadth of palate . .	47	48	48	50	45	50	46	48	46	45	53	44
9	Temporal diameter . .	54	55	52	55	56	56	53	55	54	53	53	51
10	Auricular diameter. .	55	58	58·5	60	55	62	51	61	54	54	56	50
11	Orbital diameter . .	47	56	53	53·5	48	59	41	47	46·5	49	(52)	48
12	Zygomatic diameter .	92	100	96	100	90	100	92·5	97	94	93·5	106	84
13	Interorbital diameter .	34	39	40	37·5	34·5	39	28·5	35·5	32	32	39	33
14	Length of cranium . .	93	101	99	101	99	105	83	106	98	94	95	83
15	Length of face . .	88	100	100	100	95	101	78	106	97	85	100	74·5
16	Height of skull . .	51	59	52	53	58	58	49	53	49	49	55	50
17	Length of up. P.M. & M.	—	66	—	70	65	71	57	71	65·5	62	—	54
18	Length of up. 2 molars .	20·5	18	20	20·5	19	22	18	20	20	17	—	16
19	Length of P.M. 4 . .	16	17	18	18	19	19	17	18	17·5	16	—	15
20	Breadth of P.M. 4 .	8·5	9·5	10	10	10	11	9	11	9	8·5	—	9
21	Orbital angle . . .	45°	56°	54°	50°	56°	64°	46°	47°	50°	52°	—	57°

MM. Lortet and Gaillard found two groups of dogs commonly mummified; the most numerous were Pariah, but there was another variety which they call the *Egyptian dog*. This animal was somewhat larger than the Pariah, and resembled rather the modern Constantinople dog; the orbital angle is greater than that of the Pariah, and the development of face and cranium resembles that of the domestic dog. In their measurements[2] the orbital angle of the Pariahs varies from 45° to 48°, while that of the Egyptian dog varies from 51° to 57°. In my mummy dog this angle varies from 43° to 55°, while in the modern Pariahs the excessive size of 65° is attained.

In order to see how the size of this angle agreed with other proportions of the skull, I have arranged in order the indices of four of the chief proportions. Two of these, *i.e.* Total length : Zygomatic width, and Length of Palate : Width of Palate, were suggested by reading Messrs. Windle and Humphrey's paper, in which they give a great number of measurements of

[1] These dogs were obtained through the kindness of Mr. Cyril Crossland.

[2] *Loc. cit.*, pp. 10 and 13.

dogs' skulls of different races.[1] I cannot compare their results with mine, however, as their indices are calculated according to Huxley's method of taking the basicranial axis as 100. Also it seems advisable to supplement the Length : Width index with another, in which the length is calculated along the base of the skull, thus obviating the great variation caused by the relative size of the sagittal crest, which is, of course, partly dependent on the sex of the individual. Another interesting proportion is the length of the cranium to that of the face. In all jackals the cranium is a good deal longer than the face, giving a low index of about 85; in dogs the length of the face, measured from the fronto-nasal suture, increases, until in some dogs, such as the greyhound, the face is longer than the cranium, giving a high index of over 100.

Below are the serially arranged indices of the mummy dogs, and for comparison those of the modern Pariahs. In all cases I have placed the lowest number at the bottom, as representing the more primitive, long-headed type.

SERIATION OF INDICES OF MUMMY DOGS' SKULLS.[2]

Total length : Zygomatic width $\frac{W \times 100}{L}$		Length of base : Zygomatic width $\frac{W \times 100}{L}$		Length of Palate : Width of Palate $\frac{W \times 100}{L}$		Length of Cranium : Length of Face $\frac{F \times 100}{C}$	
Dog No.		Dog No.		Dog No.		Dog No.	
VII.	(59·5)	VII.	(69·2)	VII.	(63·2)	IV.	101·1
XII.	(57·6)	V. and XII.	65·4	XII.	59·8	II.	100·0
VIII.	56·8	V. and XII.	65·4	XI.	59·2	III.	99·0
V.	56·2	XI.	64·5	II.	58·9	VII.	(98·0)
III.	55·7	IV. and VIII.	64·2	III. and VI.	57·6	XII.	(97·9)
IV.	54·6	IV. and VIII.	64·2	III. and VI.	57·6	VI. and XIII.	97·0
XI.	54·3	III.	63·2	VIII.	57·5	VI. and XIII.	97·0
X.	53·7	X.	62·9	V.	57·0	V.	95·7
IX.	53·4	XIV.	60·7	IX.	56·7	IX.	94·5
XIV.	52·9	IX.	60·3	IV.	56·2	VIII.	93·1
I.	52·2	II. and XIII.	59·2	X.	55·0	X. and XIV.	92·2
II.	50·8	II. and XIII.	59·2	I.	53·8	X. and XIV.	92·2
VI. and XIII.	50·5	VI.	58·2	XIV.	51·1	XI.	89·0
VI. and XIII.	50·5	I.	57·8	XIII.	50·6	I.	84·6
Mean . .	54·0	Mean . .	63·1	Mean . .	57·3	Mean . .	96·4

[1] B. Windle and J. Humphrey, "On some Cranial and Dental Characters of the Domestic Dog," *Proc. Zool. Soc. London*, 1890, p. 5.

[2] The figures in brackets are approximate, owing to the front of the premaxillae being worn away.

SERIATION OF INDICES OF MODERN PARIAH DOGS' SKULLS.

Total length : Zygomatic width.		Length of base : Zygomatic width.		Length of Palate : Width of Palate.		Length of Cranium : Length of Face.	
Dog No.		Dog No.		Dog No.		Dog No.	
7	58·6	7	67·0	12	62·9	14	105·3
12	55·3	14	64·2	7	61·3	3	101·0
14	55·2	12	64·1	14	59·0	8	100·0
13	53·7	13	61·5	1	56·0	2, 4, and 11	99·0
1	51·7	3	60·0	3	55·8	2, 4, and 11	99·0
3 and 11	51·1	2	59·5	6	54·4	2, 4, and 11	99·0
3 and 11	51·1	1	59·4	13	54·2	6	96·2
2 and 4	51·0	4	58·5	4	53·8	5	96·0
2 and 4	51·0	11	58·4	2	51·6	1	94·6
6	50·0	6	58·1	5 and 11	50·6	7	94·0
5	48·1	5	55·9	5 and 11	50·6	12 and 13	90·0
8	47·6	8	55·1	8	49·0	12 and 13	90·0
Mean . .	51·1	Mean . .	59·5	Mean . .	54·3	Mean . .	97·6

From these it will be seen how extremely difficult it is to classify these dogs, for while some of them, as, for instance, No. IX., keep almost exactly to their place in the column, it is not easy to see why others, like No. II., show great changes in position in the second and third columns. One would imagine that a long-headed dog would have a long palate, but this does not seem to be the case necessarily, for No. II. has its head longer than the average, while its palate is shorter. With regard to the orbital angle, No. I. has the same angle, 43°, as have Nos. VII. and XII.; but whereas the two latter are fairly alike, No. I. is totally different, being long and slender, instead of wide and sturdy, as a glance at the table above shows, Nos. VII. and XII. being at, or near, the top of each column, while No. I. is at the bottom or near it. Indeed, it is extremely probable that No. I. is not a true dog, but a jackal, and yet the orbital angle is the same as that of two of the most dog-like of the others.

Taking this into consideration, I thought it would be interesting to calculate the indices of MM. Lortet and Gaillard's dogs from the measurements given; the results may be seen below. The total length of the skull was not given, hence the index including that measurement is omitted.

SERIATION OF INDICES CALCULATED FROM MM. LORTET AND GAILLARD'S MEASUREMENTS OF EGYPTIAN MUMMY DOGS' SKULLS.[1]

PARIAH DOGS.

Length of base : Zygomatic width.		Length of Palate : Width of Palate.		Length of Cranium : Length of Face.	
No.		No.		No.	
41	66·2	41	57·9	38	98·9
54	65·8	102	56·5	102	94·9
38	65·2	54	55·7	41	92·9
34	64·4	38 and 40	54·1	47	92·7
40	64·1	38 and 40	54·1	34	91·3
102	62·8	53	53·8	53	91·1
47	61·3	34	51·9	40	89·1
53	60·8	47	51·2	54	87·8
Mean .	64·3	Mean .	54·1	Mean .	92

EGYPTIAN DOGS.

36	68·8	51	53·1	51	103·5
35	65·4	39	52·9	36	98·9
51	63·0	36	51·2	64	97·9
39	59·9	35	50·6	39	94·7
64	57·1	64	50·0	35	88·8
Mean .	63·0	Mean .	51·2	Mean .	97·9

EGYPTIAN SPITZ. No. 101.

Length of base : Zygomatic width.	Length of Palate : Width of Palate.	Length of Cranium : Length of Face.
66·9	68·5	100

EGYPTIAN GREYHOUND. No. 48.

61·6	56·5	95·2

A study of these figures shows that the range of variety of the Egyptian dog is practically as great as that of the Pariah, while it is only in the proportion of the cranium to the face that the form is more dog-like.

Taking all things into consideration, it seems most probable that these are the skulls of ordinary Pariah dogs; the range of variety is not greater than one would expect from a collection of dogs of this sort, taken at random. Although very different types are represented, it is probable that with more specimens an even series could be made, but as Pariah dogs frequently interbreed with the domestic and the wild races around them, it is impossible to define their cranial characteristics. One can only assume that a heterogeneous collection such as these mummy dogs is the outcome of the promiscuous interbreeding of Pariah dogs, rather than regarding it as a collection of pure types all gathered together and mingled in one vast necropolis.

[1] *Loc. cit.*, 1st series, pp. 9, 13, and 16; 5th series, p. 284.

CHAPTER VI.

DESCRIPTION OF THE PLATES.

PLATES I.–VII., XVII., CEMETERY; VIII.–XVI., XVIII.–XXI., UMM EL-GA'AB.

Plate I. Cemetery E. Early graves, showing examples of interference by later burials, plundering, superposition &c.

Plate II. Late burials. Earthenware spout-vase and bowl: Old Kingdom (Brit. Mus., Nos. 49329, 49330); VIth Dynasty amulets (9, Brit. Mus., No. 49336; 10, Brussels; see Pl. VII.); head-rests; early stone vases.

Plate III. "Predynastic" tomb-groups: slate palettes, flint knives, ivory scoop, stone pots &c.; large flint of palaeolithic type; late bronze vases.

Plate IV. VIth Dynasty objects; alabaster funerary figures on thrones; sets of amulets, including the *peš-kef* (2, 6); mirror and stone vases.

Plate V. Drawings of "predynastic" and early dynastic pottery, a late pot, bead-types &c.

Plate VI. Plans of burials, showing interference, superposition &c.; scarabs, and pottery from shaft-tombs. The conjunction of the simple contracted burials 52, 53 with the semi-contracted box-burial 54 in a shaft, the later interment 50, and the late coffin 40, is specially interesting (see p. 27).

Plate VII. VIth Dynasty amulets (see Pl. II.), in the British Museum and at Brussels: full-size photographs to show detail.

Plate VIII. Umm el-Ga'ab. Potsherd with royal name; crystal fragment of Merbapa and Semempses (see Pl. XIV.); sandstone fragment with upper part of a Ptolemaïc cartouche, Ar[sinoë ?]. Drawn by Mme. Naville.

Plate IX. Clay sealings of Sekhem-ȧb and Peràbsen. Drawn by Mme. Naville.

Plate X. Clay sealings of Peràbsen. Drawn by Mme. Naville.

Plate XI. Clay sealings of Peràbsen; drawn by Mme. Naville. Early pottery; drawn by Mr. James Dixon (see Pl. XV.).

Plate XII. Early pottery. Drawn by Mr. Dixon (see Pl. XVI.).

Plate XIII. Types of later pottery. Drawn by Mr. Dixon (see Pl. XV.). For the pottery see ch. iv.

Plate XIV. Photograph of the crystal fragment of Merbapa and Semempses (Pl. VIII.); chert implement, archaic period (see p. 38); crude clay Osiris-figures (p. 35).

Plate XV. Photographs of early pottery of the Old Kingdom (Pl. V.); New Kingdom pottery (Pl. XII.); fragment of Roman barbotine ware (ch. iv.).

Plate XVI. Photographs of Old Kingdom pottery (see Pl. XII.).

Plate XVII. Photographs of Abydos, by Mr. Hall, showing the explorers' houses and work in the cemeteries. No. 6, showing men hauling up a basket out of a shaft-tomb, was taken during the previous explorations of Prof. Garstang in 1907, and is published here with his consent. It is included on account of its showing well the way in which the native diggers can stand in the corner of a shaft with their feet resting simply in places where the bricks are slightly broken away, in order to assist the hauling up of the baskets.

Plate XVIII. Photographs of Abydos and the excavations at Umm el-Ga'ab, by Mr. Hall. No. 1 shows the southern side of the Abydos

hill-bay, curving round to the headland in which was dug the cenotaph of King Senusrit III., discovered by Prof. Petrie, and excavated by Mr. Weigall and Mr. Currelly for the Fund in 1902–3 (*Abydos*, III., chs. iii. and iv., pp. 11–28). In No. 2 two of the explorers are seen returning from Umm el-Ga'ab to the house at Abydos, followed by the Fund's *kâtib* (scribe or "writer"), Muḥammad Effendi Yaḥya, and a reïs. In the middle distance is a *saḳḳâ*, or water-carrier, carrying his water-skin out from Abydos for the refreshment of the native diggers at Umm el-Ga'ab. The hill in the distance is the northern arm of the hill-bay at el-Alâwnîyah. Nos. 3 and 4 show the rows of later pots, which were at first considered to mark out a road (p. 37). The tall standing figure in white in No. 6 is the old reïs Khalîfah 'Abd el-Ghâfir, of Ḳurnah, who had previously been head reïs in the excavations of the XIth Dynasty temple at Deir el-Bahari, and is now dead. He was a fine specimen of the older Egyptian *fellaḥ*, always naturally courteous and pleasant, willing to help in every possible way, and a good and loyal servant of the Fund.

Plate XIX. Photographs of the rows of pots and of the deposits of early pottery (p. 37), by Mr. Peet.

Plate XX. Photographs of the work of re-clearing Peràbsen's tomb, superintended by Mr. Legge. Nos. 1 and 2, showing the work in progress, were taken by Mr. Hall; No. 3, showing it completed, by Mr. Peet.

Plate XXI. General plan of Umm el-Ga'ab, by Mr. Dixon, showing the work of clearance and re-clearance carried out in 1909–10.

H. H.

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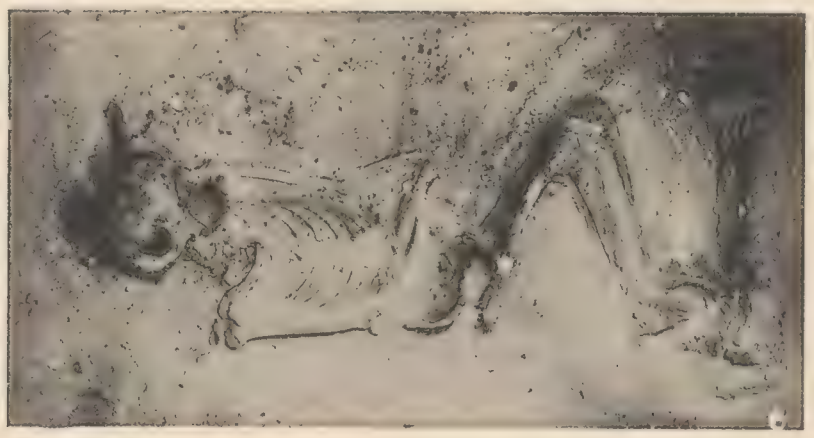
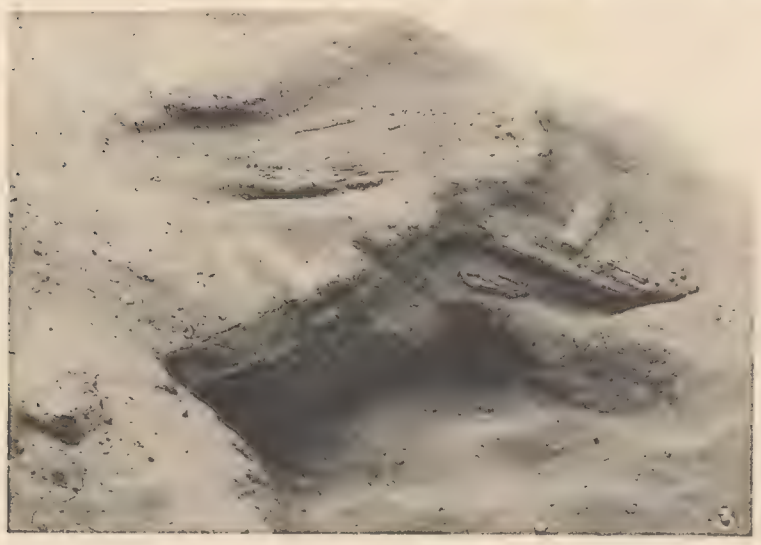
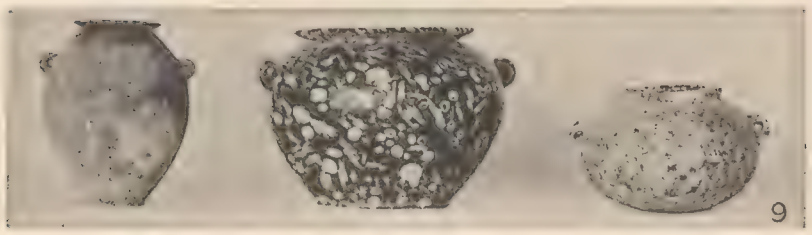
PLATES.



1. E 106, 123, & 141; TYPE I. GRAVE CUT IN TWO BY SHAFT. 2. E. 31.
3. E. 11; EXAMPLE OF PLUNDERING. 4. E. 37. 5. SUPERPOSED BURIALS; E. 84-86.
6. SHAFT BURIAL; E. 56. 7. E. 120; POSSIBLE DISMEMBERMENT.
8. GENERAL VIEW IN CEMETERY E.





1 RUINED LATE VAULTS, SHOWING STRUCTURE OF ROOFING. 2. VASE CONTAINING MUMMIFIED CATS. 3. E. 15, SHOWING VASE AND SANDAL. 4. PTOLEMAIC BURIAL IN SAND. 5. VASES FROM E. 265. *Sc.* $\frac{1}{8}$. 6. AMULETS; E. 45. *Sc.* $\frac{1}{2}$. 7. AMULETS AND CYLINDER; E. 47. *Sc.* $\frac{1}{2}$. 8. VASES FROM E. 265; *Sc.* $\frac{1}{6}$. 9. STONE VASES FROM TYPE I. GRAVES. *Sc.* $\frac{1}{8}$. 10. DAMAGED HEAD-REST; E. 314. *Sc.* $\frac{1}{4}$. 11. HEAD-REST; E. 289. *Sc.* $\frac{1}{4}$.

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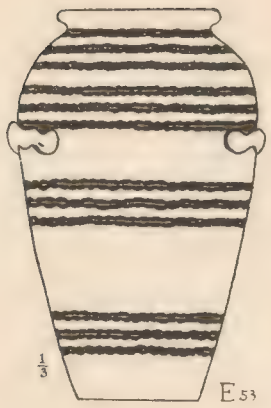
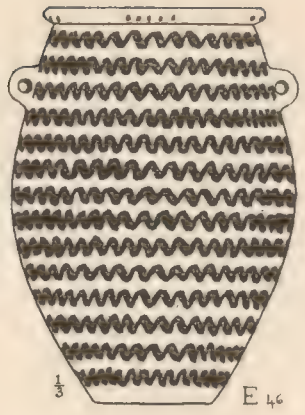
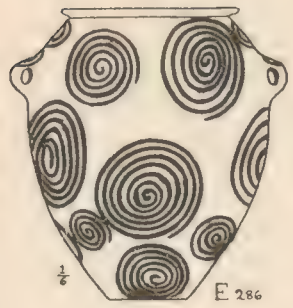
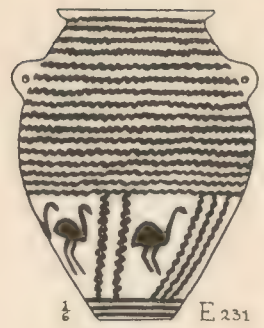
1. TOMB GROUP E. 381. *Scale* $\frac{1}{5}$. 2. TOMB GROUP E. 370. *Sc.* $\frac{4}{7}$. 3. FLINT KNIFE FOUND IN SURFACE SAND. *Sc.* $\frac{3}{10}$. 4. E. 340; VASE WITH FRIEZE OF ANIMALS. *Sc.* $\frac{4}{9}$. 5. E. 12; STONE VASE. *Sc.* $\frac{5}{9}$. 6. E. 272; STONE VASE. *Sc.* $\frac{5}{9}$. 7. E. 132; FLINT. *Sc.* $\frac{3}{10}$. 8. E. 7; FLINT KNIFE. *Sc.* $\frac{3}{10}$. 9. BRONZE VASES, FOUND IN RUINS OF A LATE VAULT. *Sc.* $\frac{1}{5}$. 10. LARGE FLINT FOUND IN SURFACE SAND. *Sc.* $\frac{1}{2}$.

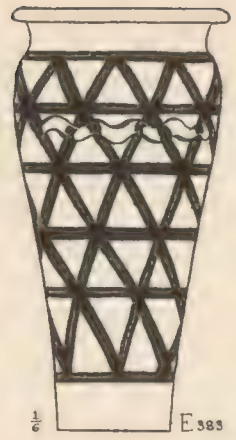
1 AND 9. ALABASTER FIGURE ON THRONE, E. 21. *Scale* $\frac{1}{3}$. 2 AND 6. E. 21; OBJECTS FOR "OPENING THE MOUTH" CEREMONY. *Sc.* $\frac{1}{2}$. 3. E. 317; HEAD-REST OF RED POLISHED POTTERY. *Sc.* $\frac{1}{4}$. 4 AND 5. E. 21; ALABASTER FIGURE. *Sc.* $\frac{4}{9}$. 7. E. 21; IVORY FIGURINE. *Sc.* $\frac{5}{12}$. 8. E. 101; MIRROR AND STONE VASES. *Sc.* $\frac{1}{3}$.

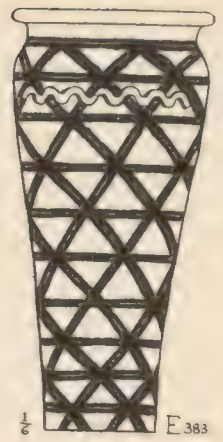


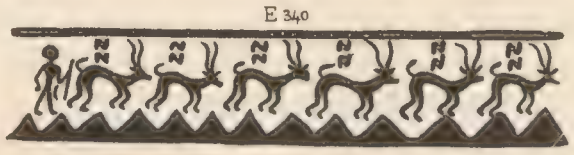










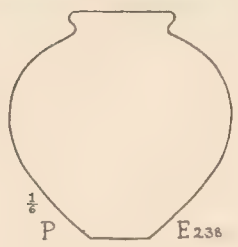


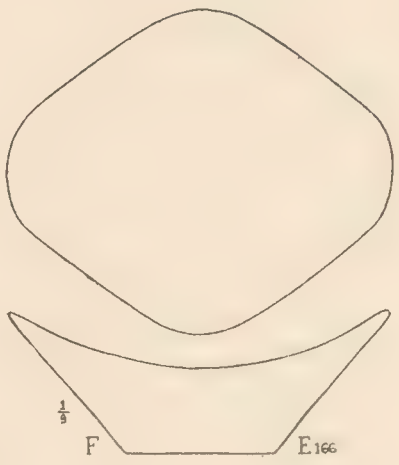
BLACK-TOPPED WARE.

POLISHED RED WARE.

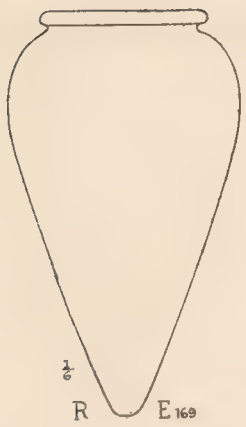
FANCY FORMS.

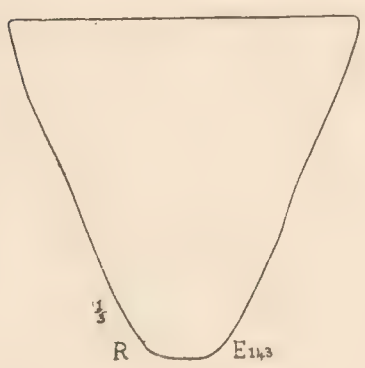
LATE WARE.

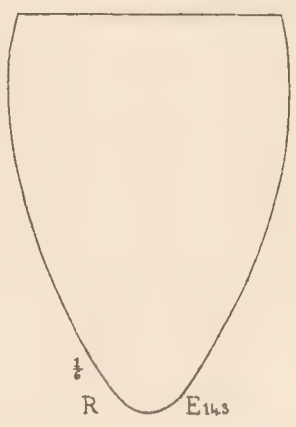


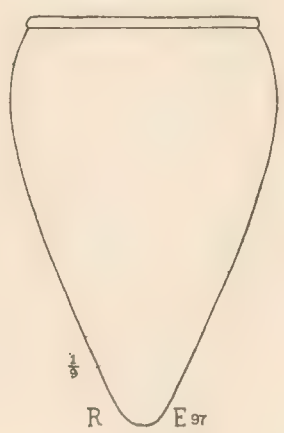


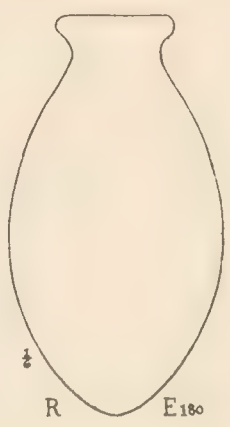
ROUGH WARE.

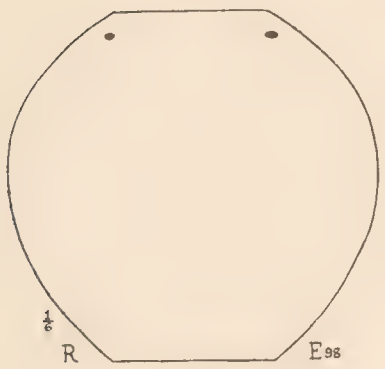


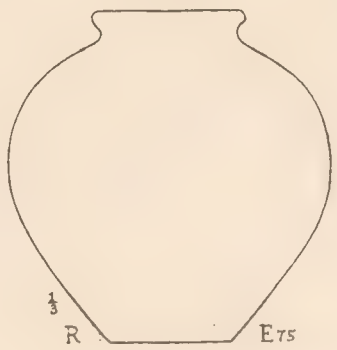


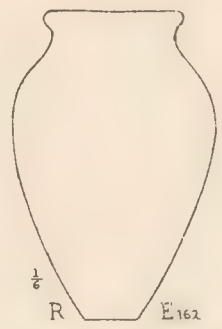


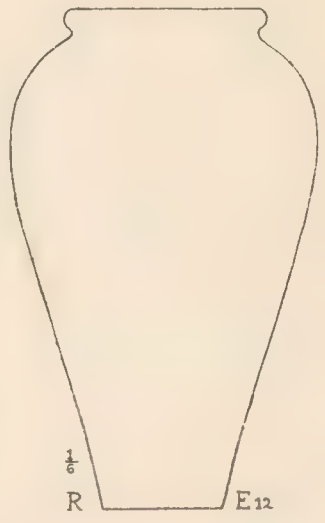


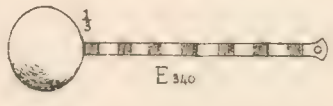




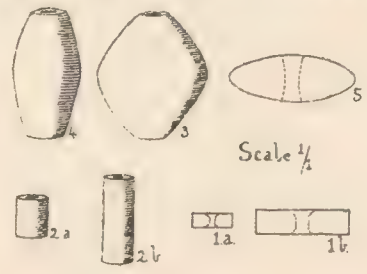


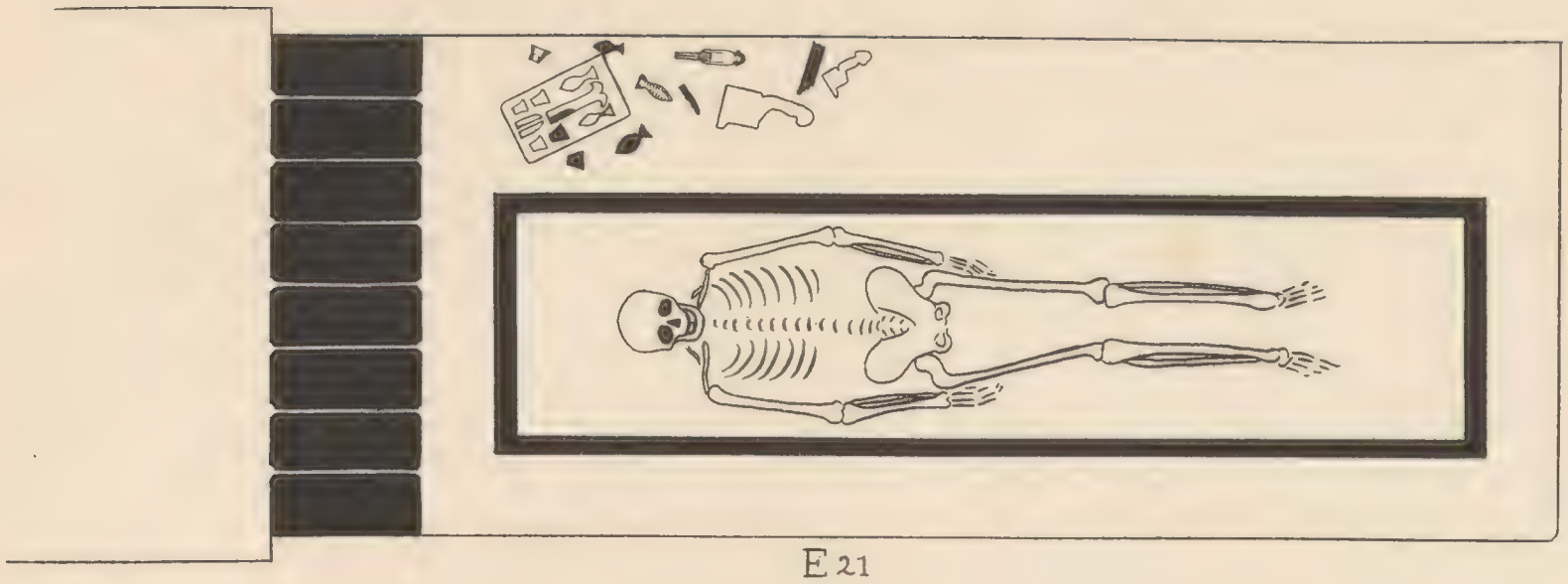




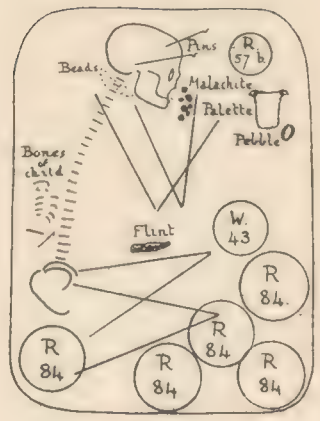


BEAD-TYPES
FROM TYPE I. GRAVES.

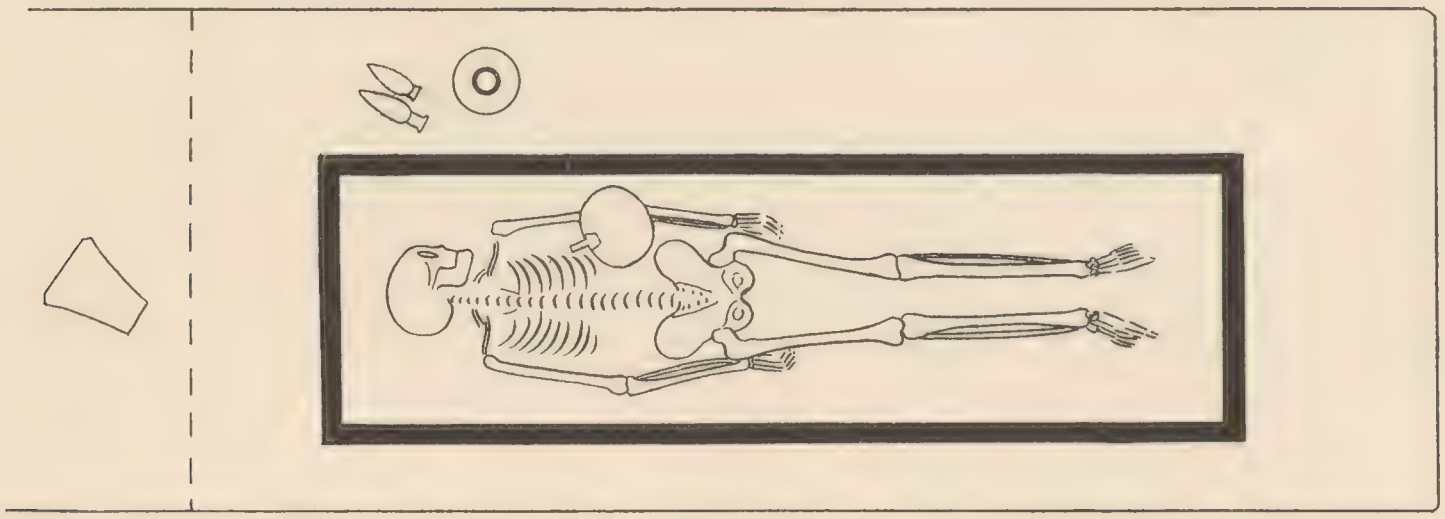




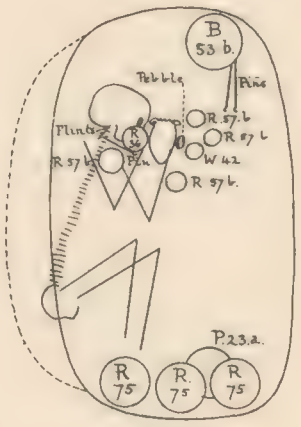
E 21



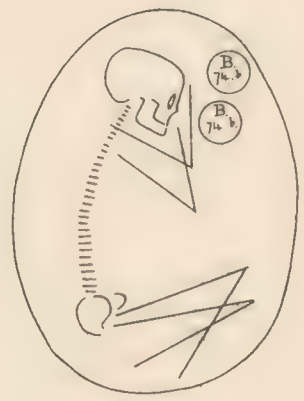
E 370



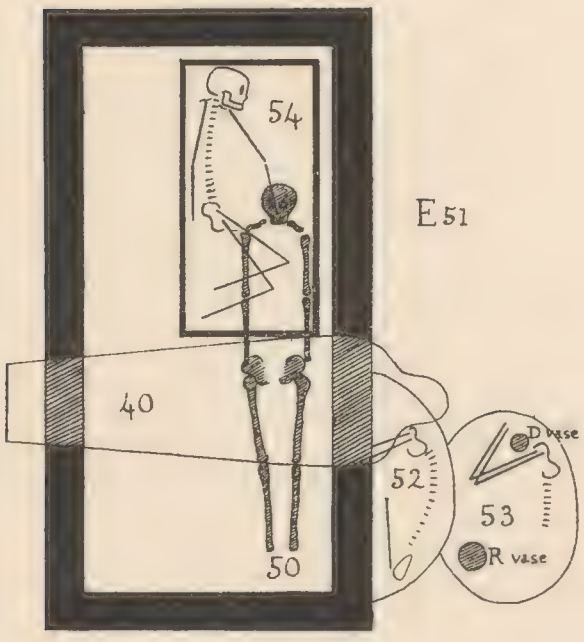
E 101



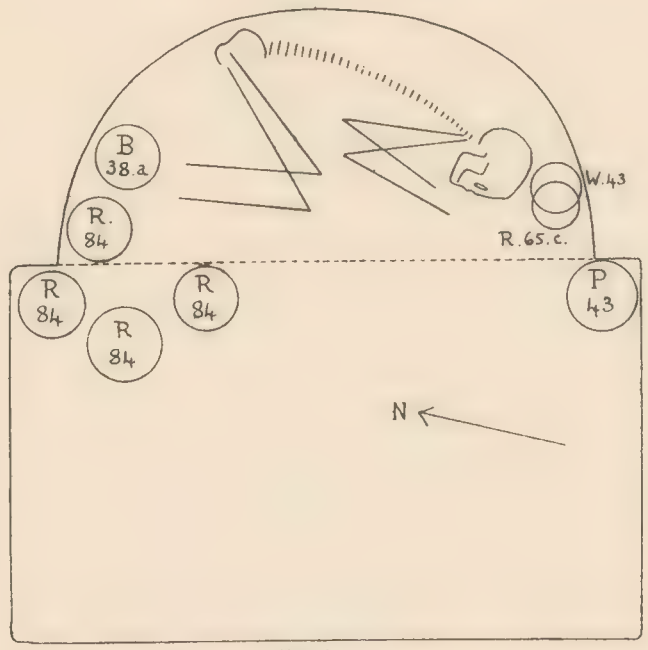
E 264



E 134



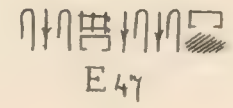
E 51



E 351

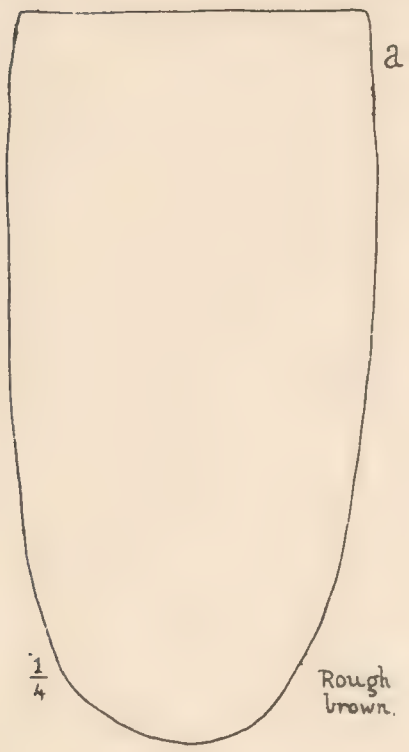
E 390

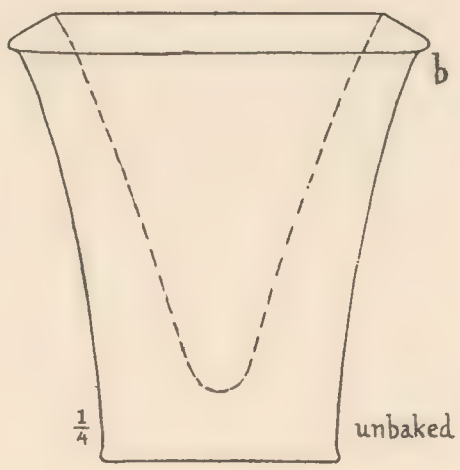
E 290

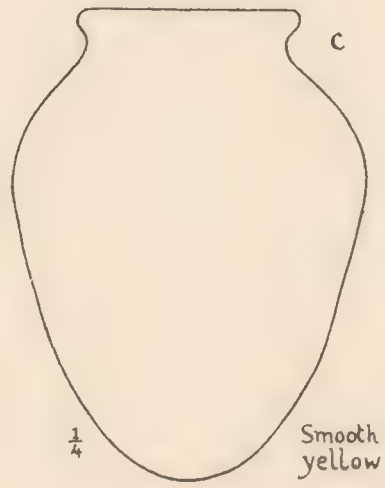


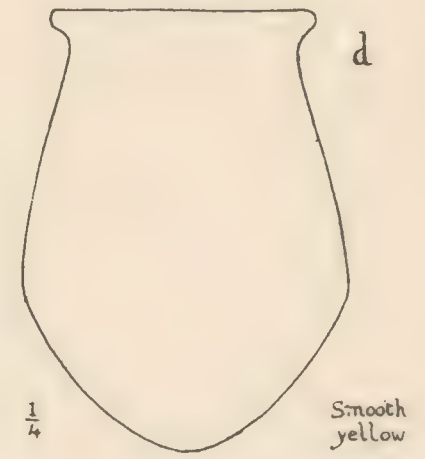
E 47

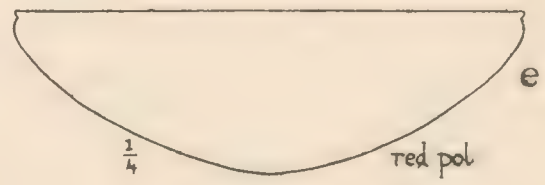
POTTERY FROM SHAFT-TOMBS.







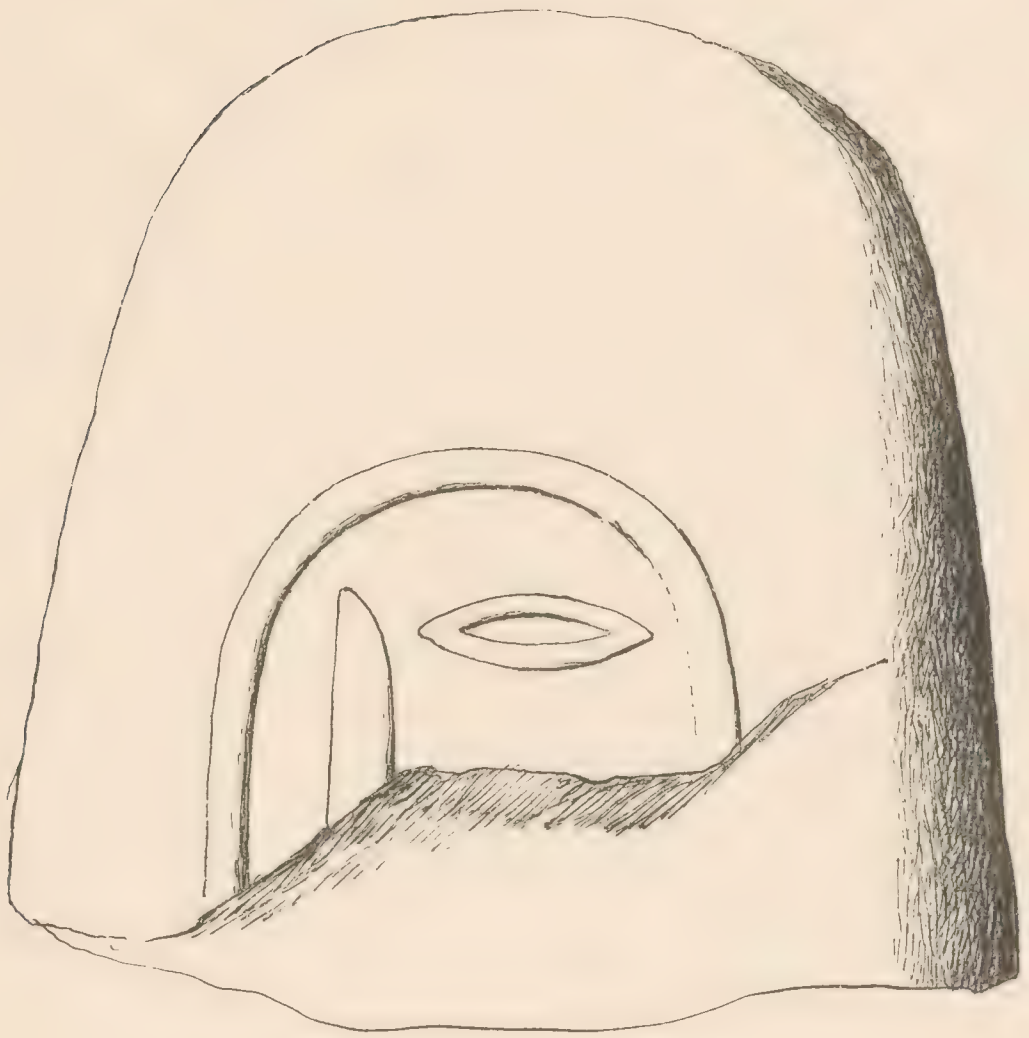




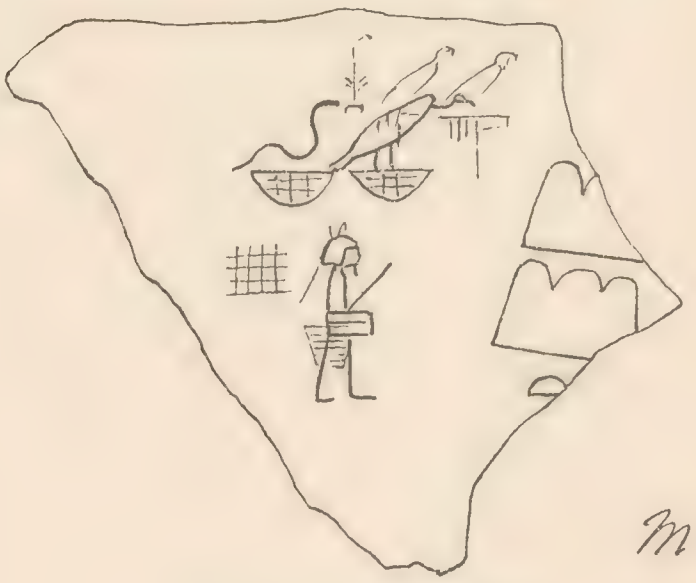
SIXTH DYNASTY AMULETS: E. 45.
(BRITISH MUSEUM).

SIXTH DYNASTY AMULETS AND BEADS: E. 47.
(BRUSSELS MUSEUM).

POTSHERD.



SANDSTONE FRAGMENT.

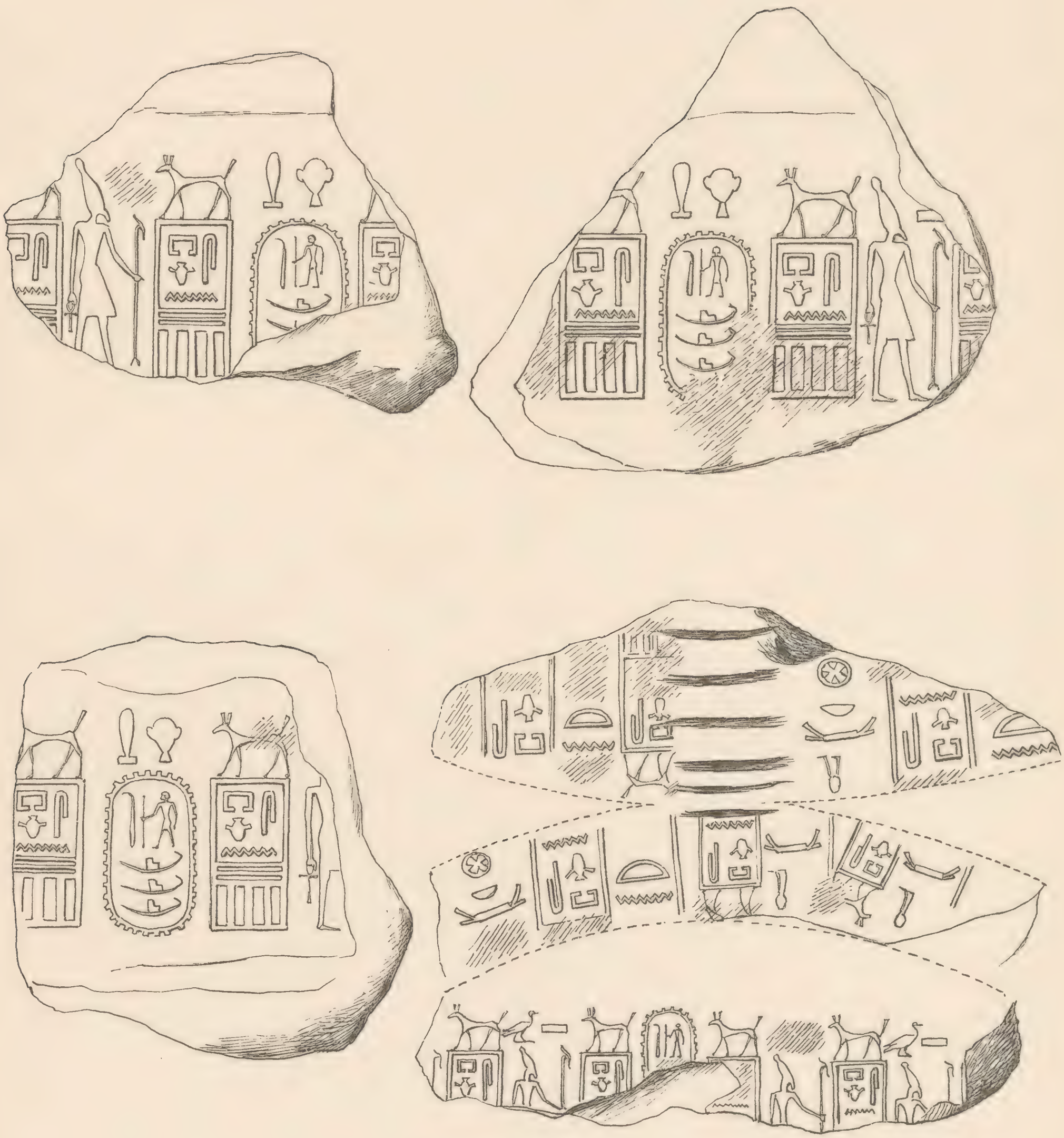


CRYSTAL FRAGMENT.

M. N. 1910

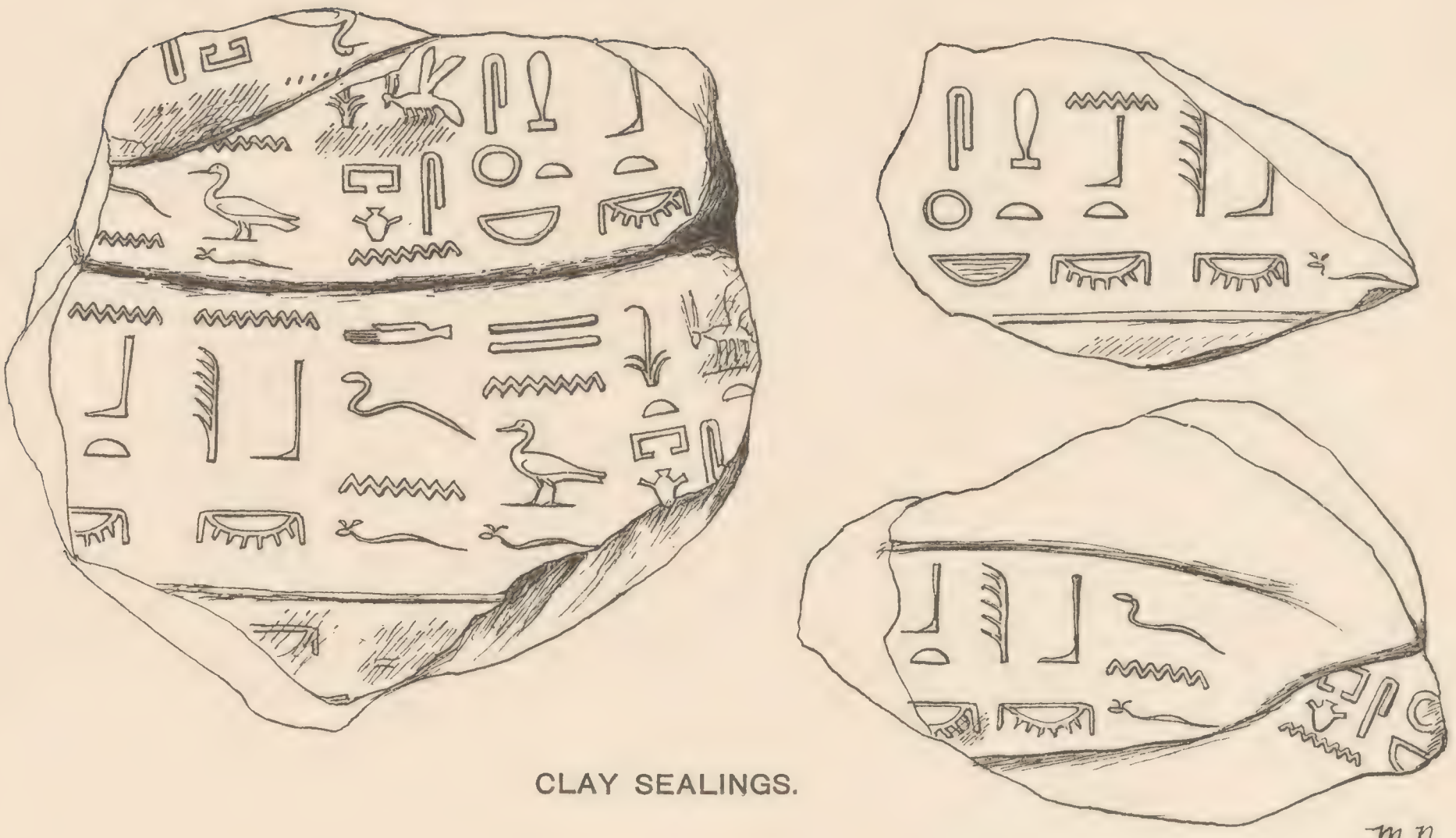
M. N. 1910

CLAY SEALINGS.



SEALINGS SERIES B. 1–4.

M. N. 1910



CLAY SEALINGS.

M.N.

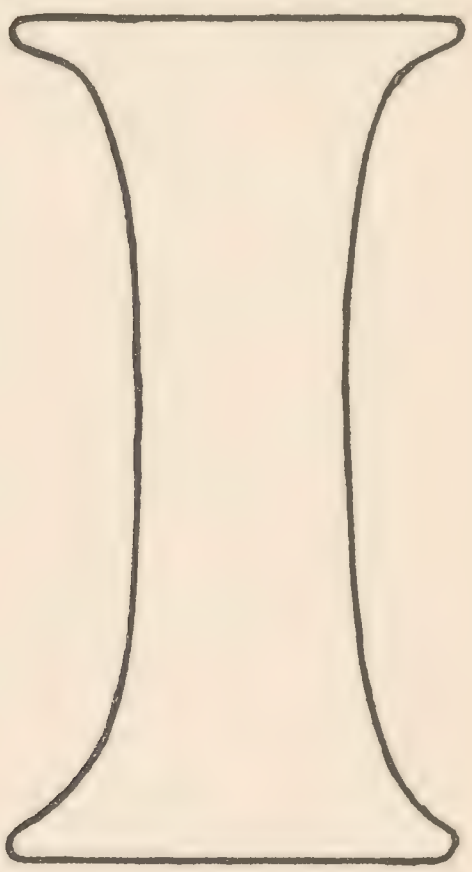
1:3

VASE STAND.

1:2

CYLINDRICAL JAR.

1:3



VASE STAND.

EARLY POTTERY.

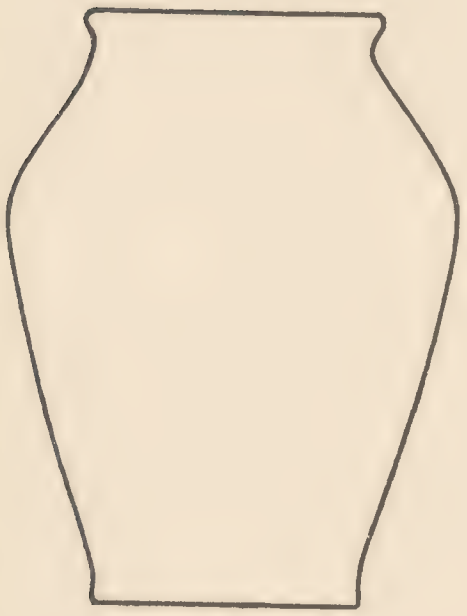
J.D.

1

2

3

1:4



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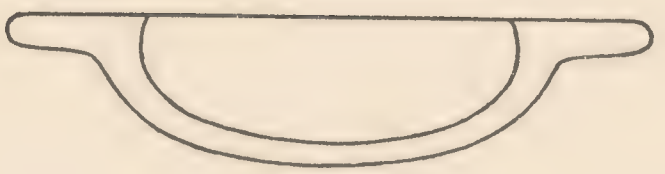

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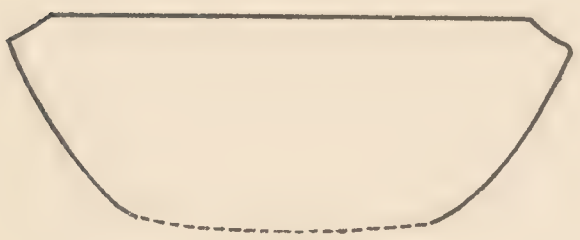

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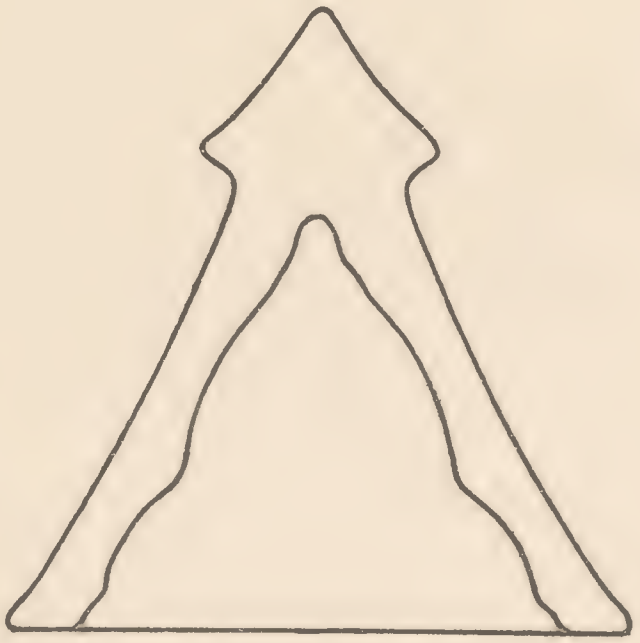

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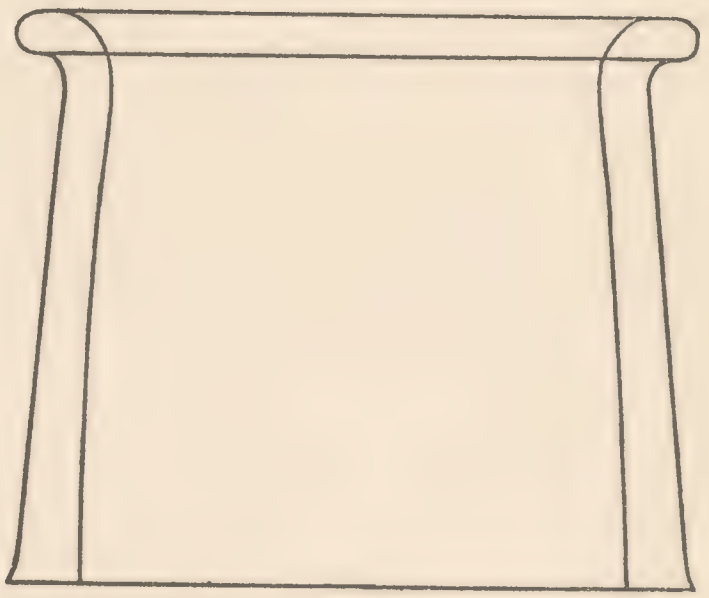
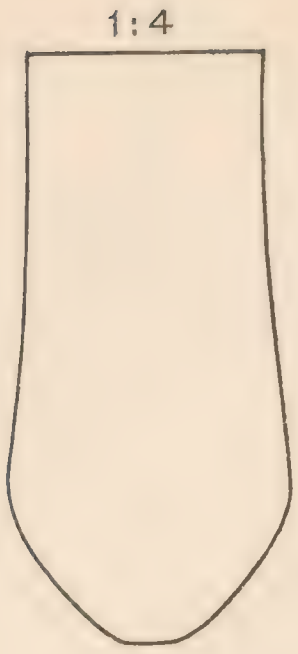


11

1:2

EARLY POTTERY.

J.D.



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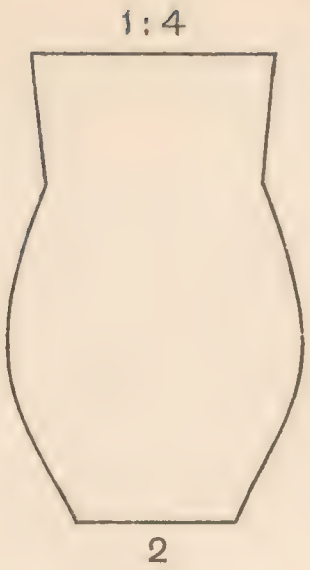

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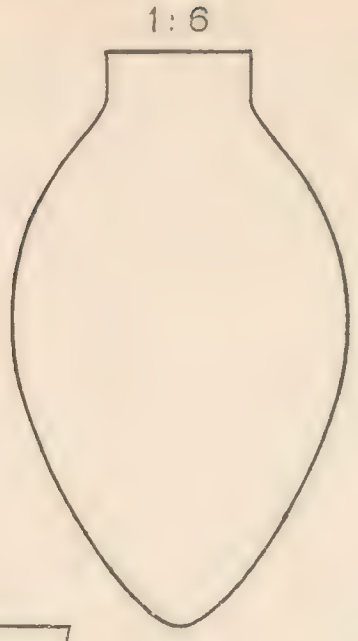

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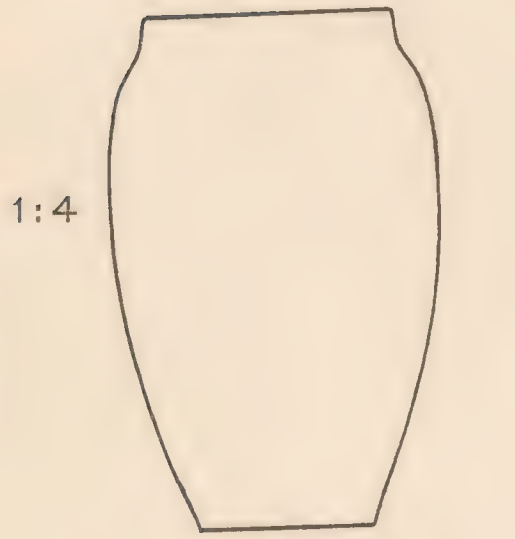

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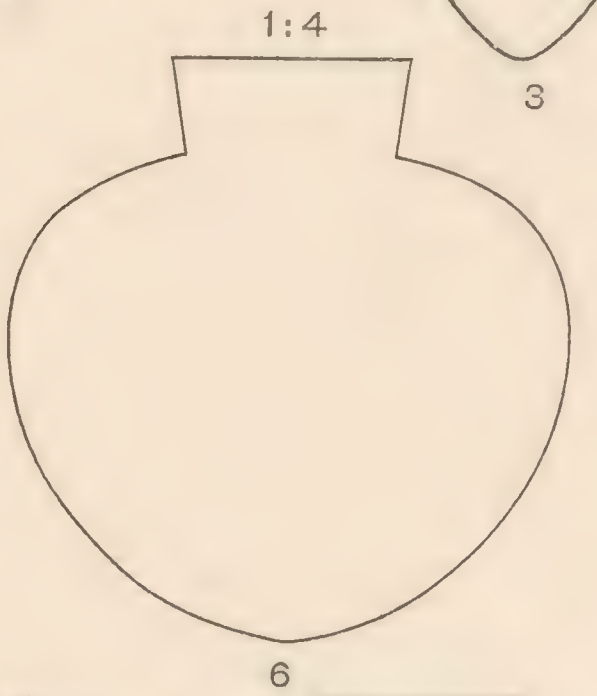

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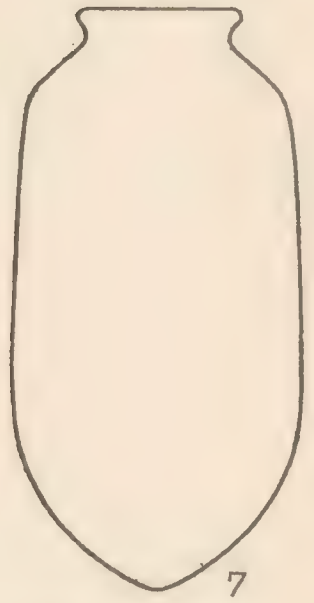

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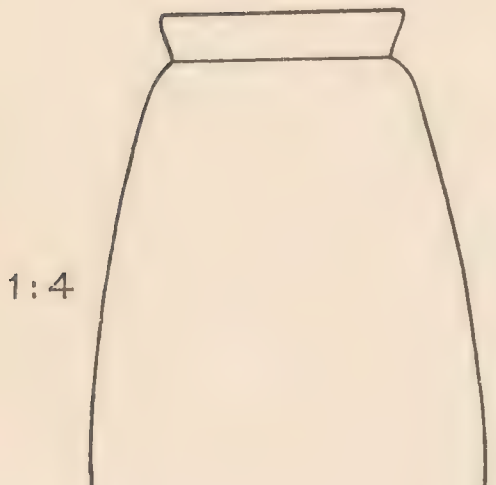

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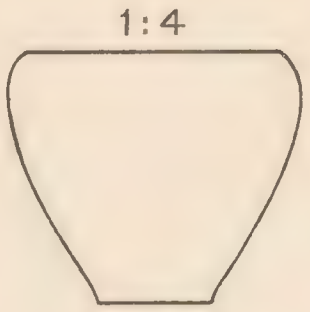

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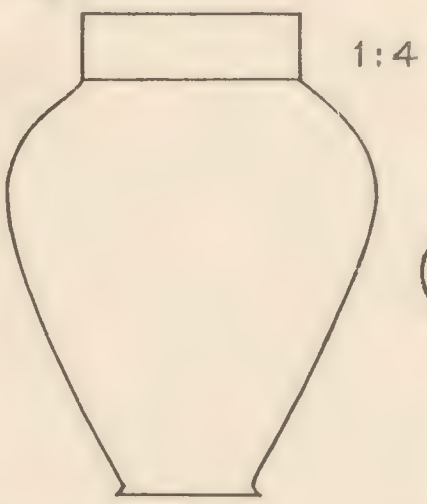

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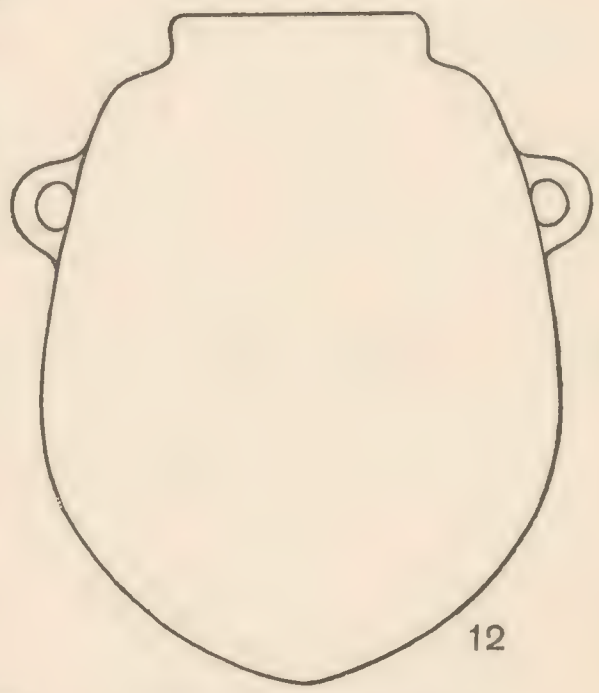

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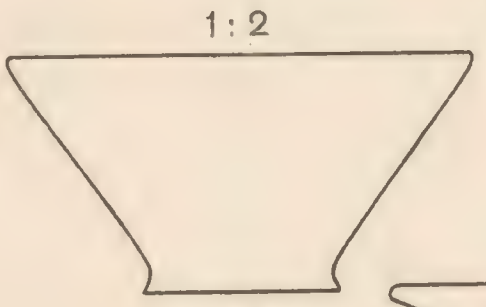

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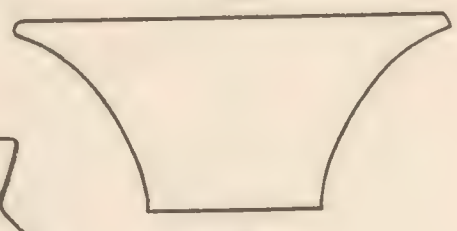

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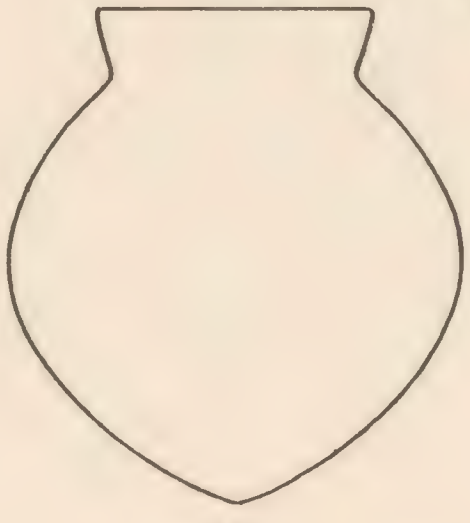

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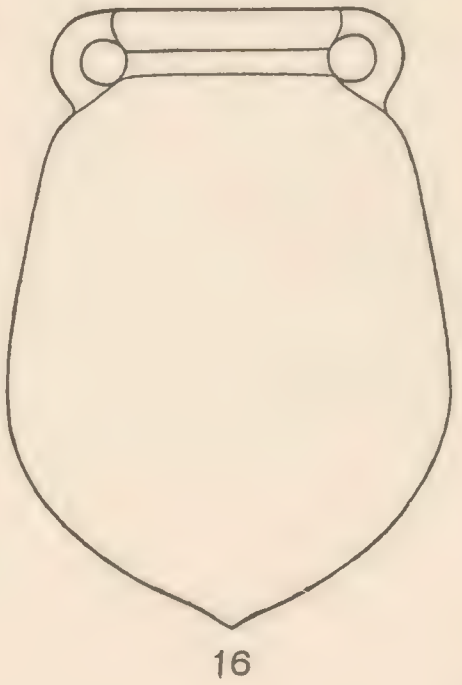


16

TYPES OF LATER POTTERY.

J.D

1. CRYSTAL FRAGMENT WITH NAMES OF MERBAPA AND SEMEMPSES.

2. CHERT IMPLEMENT.

ARCHAIC OBJECTS.

3. CRUDE CLAY OSIRIS-FIGURES.

1.

2.

3.

OLD KINGDOM POTTERY.

4.

5.

6.

7.

8.

9.

LATER POTTERY.

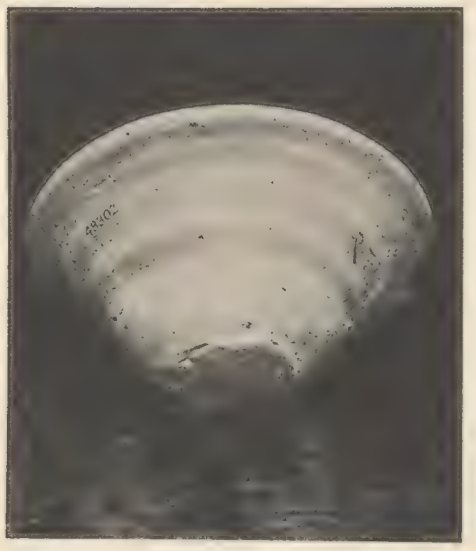
1.

2.

3.

4.

5.



6.

7.

8.

9.

OLD KINGDOM POTTERY.

1. THE NORTHERN HOUSE.

2. THE SOUTHERN HOUSE.

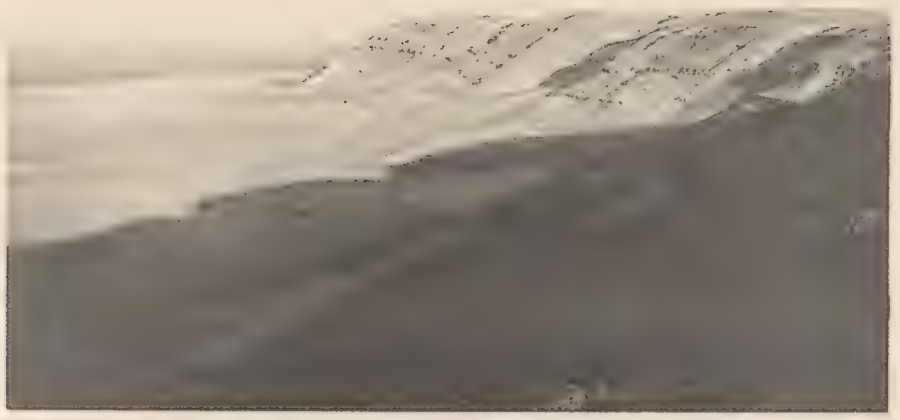
3.

4.

5.

6.

WORK IN THE CEMETERIES.

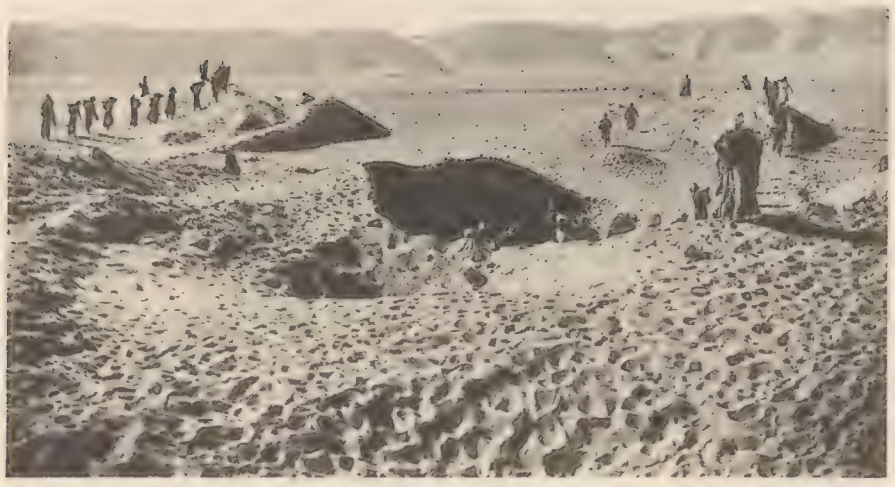


1. THE HILLS OF ABYDOS.

2. BETWEEN UMM EL-GA'AB AND THE CEMETERIES.

3. THE WORK AT RAILHEAD.

4. THE ROWS OF POTS.



5. THE TIPS.

6. THE TIPS.

1. THE ROWS OF LATER POTS.

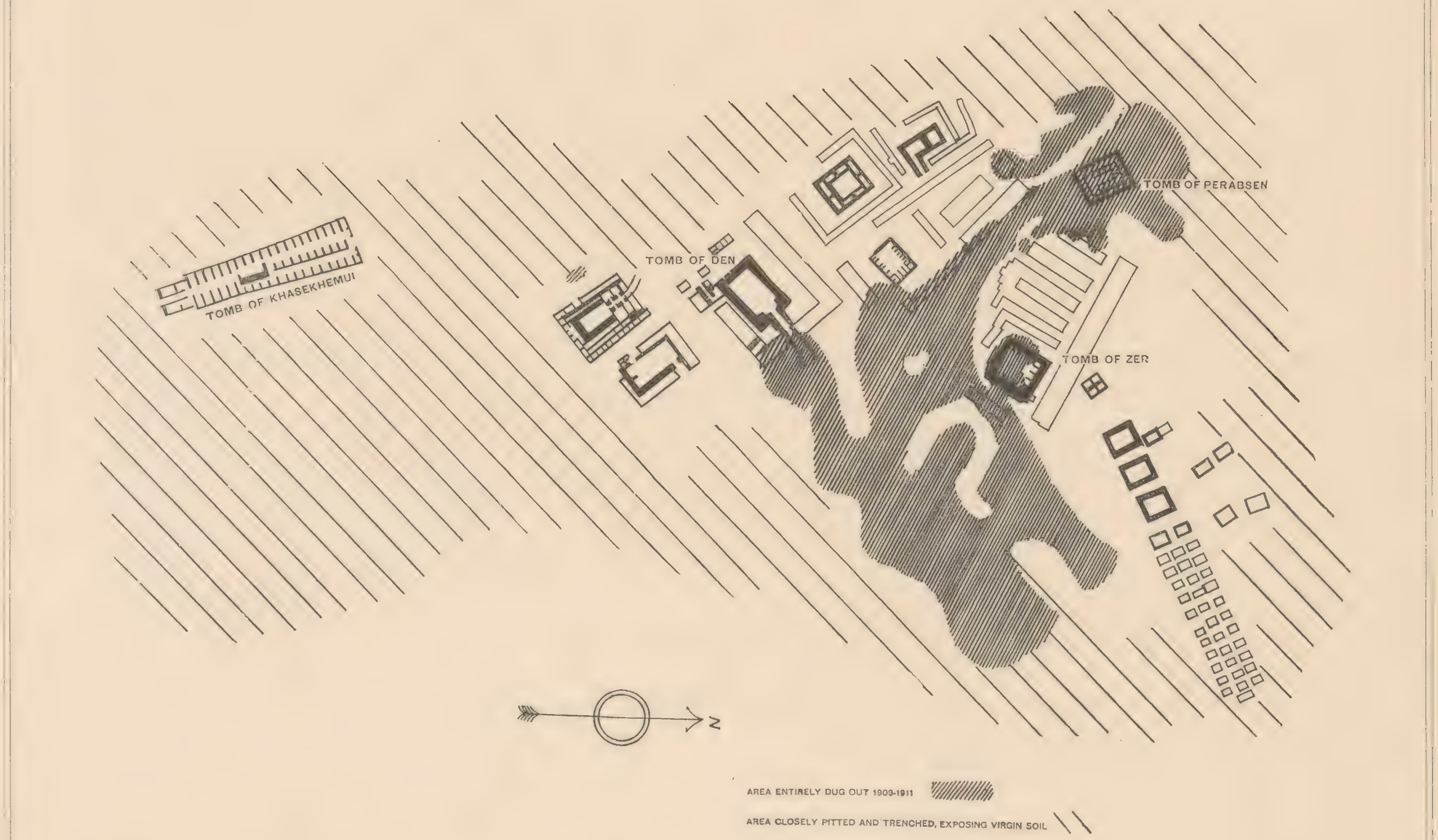
2. DEPOSITS OF EARLIER POTTERY.

1.

2.

3.

THE WORK AT PERABSEN'S TOMB.



PLAN OF THE WORK AT UMM EL-GA'AB, 1909-11;
SHOWING AREA ENTIRELY EXCAVATED.

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